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ABSTRACT

This publication is a review and synthesis of the last five years of the literature related to special populations designated in the Carl D. Perkins Vocational Education Act. The document contains six chapters. "Black American Participation in Vocational Education" (Ernest Fields) traces the historical evolution of education for jobs as experienced by Blacks. "Limited English-Proficient Persons" (Joan Friedenberg) documents the fact that a majority of vocational education programs make little or no effort to recruit these students into their programs. "Education Behind Bars: Focus on Vocational Education for Adult Inmates" (Ida Halasz) finds that while a lack of basic academic and employability skills is a contributing factor to crime, the corrections system does not put great emphasis on education. "Individuals with Disabilities and Vocational Education" (Margaretha Izzo, Janet Ciccone) reports that a vast number of disabled youth leave secondary school without the skills required to make the transition to work and to remain employed. This chapter also addresses the controversy regarding formal versus informal assessment. "Encouraging Nontraditional Options" (Louise Vetter) indicates that much of the available research focuses on student recruitment into nontraditional programs. "Single Parents and Homemakers" (Louise Vetter) identifies the comprehensive services needed for an optimal program for this group. (YLB)

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VOCATIONAL SPECIAL NEEDS LEARNERS: FIVE YEARS OF RESEARCH AND DEVELOPMENT

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FOREWORD

Since passage of the Carl D. Perkins Vocational Education Act in 1984, vocational education funds have been targeted to improve access of and service to special populations. This legislation in fact does more than specify the availability of funding. It mandates that these special populations, which are still being underserved, be given concentrated assistance to improve their experience with vocational education.

This publication is a review and synthesis of the last 5 years of the major literature related to special populations designated in the Perkins legislation: (1) Blacks and limited English-proficient individuals (who make up the majority of the disadvantaged population), (2) disabled individuals, (3) displaced homemakers, (4) individuals incarcerated in corrections institutions, and (5) single parents and single heads of household.

The information presented here is meant for use by vocational educators and other interested individuals in school districts, state education agencies, research and development agencies, universities, federal education agencies, and professional associations, as well as by students in college-level vocational education programs. State and local education agencies can use this information to become acquainted with what research and curricular issues need to be addressed and how to focus future programs. Professional associations can use it to plan appropriate agendas that focus more adequately on issues pertaining to special needs learners. Federal and state government will be better equipped to plan and implement policies regarding vocational students with special needs. Vocational program staff and those concerned with practice will become better acquainted with the latest trends and issues related to their special needs learners.

The methods used to conduct this study included a review of publications and documents identified through a variety of databases. These databases are, in alphabetical order: Catalyst Resource on the Work Force and Women Database, Dissertation Abstracts, Educational Resources Information Center (ERIC), Exceptional Child Education Resources, Family Resources, National Clearinghouse on Bilingual Education, National Newspapers and Magazines Index, PsycInfo, RehabData, Social Work Abstracts, and Sociological Abstracts.

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Ray D. Ryan
Executive Director
National Center for Research
in Vocational Education

EXECUTIVE SUMMARY

> "There is nothing more unequal than
> the equal treatment of unequals."
> (author unknown)

Since the Carl D. Perkins Vocational Education Act first set aside 57% of all federal vocational education funds for special needs learners, a great deal of research, curriculum development, and demonstration projects have been funded. However, this work is disjointed and piecemeal, and information about it has been poorly disseminated. Despite the many fine contributions that have been made in the area of serving vocational special needs learners, little carefully organized attention has been paid to systematic or programmatic research. Consequently, major issues have received spotty coverage. Much of the research or literature has not been made accessible to and useful for the practitioner. And there has been no systematic analysis of literature pertaining to vocational education and employment training for special populations across these groups.

This publication addresses the problem by taking a comprehensive look at the major research and development work conducted in the past 5 years in relation to special populations mentioned in the Perkins Act. The populations selected are as follows:

- Blacks and limited English-proficient individuals (who make up the majority of those categorized as disadvantaged in the legislation)
- Disabled individuals
- Displaced homemakers
- Individuals incarcerated in corrections institutions
- Single parents and single heads of household

Implications of this research and development have been specified as they pertain to educational policy, practice, and research. In particular, an important goal of this work is to dispel the common misconception that the term special populations refers solely to one group--the disabled, for instance. There are, as has been shown, numerous subpopulations within this category. Although all these subpopulations have one thing in common--the fact that they are underserved by vocational education--the solution to their problem differs from group to group. There are various strategies and approaches that have been proven effective in fostering successfully vocational education participation of these groups, each differing according to a group's unique needs. This work serves as a concrete reinforcement to this fact.

It should be noted that in two chapters appearing in this document, those by Fields and Halasz, so few resources were found in the search of databases for a 5-year time span that the authors expanded their searches to encompass a 10-year period. In the case of Friedenberg's chapter, there were also few documents found pertaining to vocational education for the limited English-proficient learner. However, because there was little more in the prior years, the time span for this search was not expanded. In all cases, these literature reviews should be considered focused rather than exhaustive in that there may be other material existing in the field, especially in regard to the chapter by Izzo and Ciccone, which is an area having a vast quantity of literature. The intent was not to name every single article or publication produced in a given subject area. Rather, the intent was to present the major trends, issues, and problems facing these special fields as shown in the literature, to summarize the recommendations of key experts on how to deal with these problems, and to point out the problems that must still be addressed.

In the first chapter, Dr. Ernest Fields traces the historical evolution of education for jobs as experienced by Blacks in this country. He documents the fact that where Blacks have been able to exercise preferences, they have always supported the highest educational goals for themselves (Tyack & Lowe, 1986) and considered educational achievement to be a critical factor in their full participation as American citizens. In some cases, high schools under Black self-direction before or shortly after the turn of the century built academic excellence that rivaled or surpassed White schools in the same area (Sowell, 1976). However, where Black education was controlled by White school boards and other White decision makers, far from training Blacks in the skills needed for skilled jobs of the industrial age, it limited them to preindustrial skills such as brick making or gardening (Peeps, 1981). In this sense, Blacks have come to view the vocational education that was available to them as a limited, inferior educational alternative.

This historical background has had considerable bearing on present-day lack of participation by Blacks in vocational education. Further, although vocational education legislation has targeted special populations for increased access since 1963, both practitioners and researchers continue to cite the lack of attention to vocational education needs of the Black community.

In a look at the patterns of research about Blacks, Fields documents the fact that a great deal of effort has been devoted to advancing various forms of deficiency theories of racial inequality. Deficiency theory is meant to be scientific proof of the inferiority of the "deficient" group (in this case, Blacks). Although since the 1970s these deficiency theories have been challenged, with an increasing role played by Black researchers in the effort, the total research related to vocational education and Blacks has been extremely limited. Furthermore, research that professes to address Blacks is often hampered in race-specific findings by data collection in generalized "minority" categories.

In the second chapter, Dr. Joan E. Friedenberg documents the fact that a majority of vocational education programs make little or no effort to recruit LEP students into their programs. Further, in many cases, LEP students are even screened out of vocational education programs specifically due to their limited English proficiency. In other cases, counselors advise LEP students to enter academic programs where bilingual assistance is more often available.

In the third chapter, Dr. Ida Halasz, in examining the provision of vocational education to incarcerated individuals, documented the fact that the total number of inmates has grown dramatically during the past decade, nearly doubling in number (Nesbitt, 1986). She indicates that statistics show a strong inverse correlation between individuals' possession of education and employability skills and incarceration rates. For instance, only 1 per 1,000 males aged 20-29 who are college graduates are incarcerated, as compared to 259 per 1,000 males without any formal schooling (Jamison & Flanagan, 1987). Inmates' functional literacy is substantially lower than national norms; 60% to 80% of inmates can be classified as functionally illiterate (Conrad & Cavros, 1981). Further, over 40% of inmates were unemployed at the time of arrest and the average inmate lived at poverty level before being imprisoned (Coffey & Carter, 1986). Overall, Halasz concludes that although education and training alone cannot compensate for the various negative factors that contribute to an individual's being incarcerated, a lack of basic academic and employability skills is a contributing factor to crime.

Despite these figures, Halasz documented the fact that given the priority of the corrections system for providing custody and security, education (both vocational and academic) does not receive great emphasis. In fact, less than 12% of the total adult prison population has access to education programs (Correctional Education Policy Statement, 1984), and only 5% of the nation's inmates participate in vocational education (Shannon, 1984), few of which programs provide truly relevant training for skill development in current occupations.

In the fourth chapter, Margaretha Vreeburg Izzo and Janet Kiplinger Ciccone investigate the extensive literature addressing disabled individuals in vocational education and employment training. Because of the great quantity of literature in this area, examination was intentionally limited to only the most recent and key works in the field. They found that although a greater number of disabled individuals are being served by vocational education, the fact remains that a vast number of disabled youth leave secondary school without the skills required to make the transition to work and to remain employed on a long-term basis. As many as 300,000 individuals with disabilities graduate from or age out of the public school system each year (Brolin & Elliott, 1984). Unemployment rates of adults (those over 21) with disabilities are between 50 and 80% (U.S. Commission on Civil Rights, 1983), and 85% of those who are employed earn less than $7,000 per year (Bowe, 1980).

Izzo and Ciccone also specifically address the controversy regarding formal versus informal assessment of disabled students at the secondary school level, verifying that the literature supports the use of informal (curriculum-based) assessment, supplemented by formal assessment when needed. This is due to the flexibility of informal assessment and its ability to accommodate large numbers of students and still give individualized results for use in determining educational programs and placements.

In the fifth chapter, Dr. Louise Vetter, in examining the field of nontraditional options in vocational education, found that both number and percentage of female students have increased in such traditionally male programs as agriculture, technical, and trade and industry. In occupational home economics and office occupations, which are traditionally female programs, there is an increase in male student enrollment. Despite these pluses, however, within these categories, the growth is in good part due to increased enrollment of women in such traditional programs as cosmetology (categorized in trade and industry) and in data processing (technical), although there are some increases in such trade and industry areas as commercial photography, drafting, graphic arts, and law enforcement programs (Project on Equal Educational Rights, 1986). The most noteworthy advance for women in office occupations is in supervisory and administrative management--women now encompass over half the students enrolled in this program, as compared to one quarter in 1971 (Division of Vocational and Technical Education, 1973; U.S. Department of Education, 1984).

Of the available research, Vetter indicates that much of it is focused on the recruitment of students into nontraditional programs. Much less information is available on the retention of students through the programs, and even less information is available on the placement of students in jobs.

There was sufficient information, however, to document the fact that short-term, one-shot programs to attract nontraditional enrollment are well received but do not seem to lead to higher enrollments in nontraditional programs or courses at the secondary level. Longer term, more comprehensive programs appear necessary to increase actual change in interest and confidence of success in nontraditional careers.

In terms of outcomes of participation in nontraditional programs, two significant follow-up studies (Hargrave, Frazier, & Thomas, 1983; Smith, 1982) of men and women enrolling in such programs found that women employed in traditionally female occupations earned significantly higher wages than women employed in traditionally female occupations, although they still earned significantly lower wages than men employed in these occupations.

Vetter also prepared the sixth chapter on single parents and displaced homemakers, in which she identifies the comprehensive services needed by this target group in order to have an optimal program. Beyond this, however, she found that adequate information for a national overview of programs serving displaced homemakers has never been collected and that details about factors contributing to program success or failure is unavailable. The state sex equity coordinators have begun national data collection efforts on such details as client characteristics, services provided, outcomes, and follow-up results. This data collection system should be continued.

On the subject of funding, Vetter indicated that in states where funds are allocated on a formula basis through the Perkins Act to aid single parents and displaced homemakers, the amount received by districts or institutions is often so small that special programming cannot be implemented. In such cases, she recommends that allocation be made based on requests for proposals rather than on formulas.

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BLACK AMERICAN PARTICIPATION IN VOCATIONAL EDUCATION

Ernest L. Fields

Introduction

The Carl D. Perkins Vocational Education Act (PL 98-524) has as a goal the assurance of equal access to quality vocational education programs, for a variety of underserved special population groups--educationally and economically disadvantaged, handicapped, women, and those with limited English proficiency (LEP). The pattern of looking to vocational education as a tool for remediating basic social and economic problems began with the Vocational Act of 1963, which established the use of "set-asides" to target the disadvantaged and handicapped for special help. The provisions were carried through in the 1968 amendments, with LEP and sex stereotyping being added for major attention in the 1976 and 1984 amendments. There is some evidence, however, that targeting such broad categories has limited effectiveness. As Tsang (1987) cautions, "The special needs population is a heterogeneous group. Each of the subgroups has a special set of problems that requires special attention and treatment" (p. II-91).

According to Randolph (1978), "as defined by [this] legislation, black communities and black students are target populations . . . [with] critical needs that justify specific and special attention." This paper explores the problem of broad categorization with respect to the Black population. It suggests the need for more focused attention if the needs of the target groups are to be adequately addressed.

The problem of Black Americans' access to vocational education in general was addressed with passage of the Second Morrill Act in 1890, which provided real incentives for support of Black land grant colleges. With the earlier Morrill Act of 1862 only four states had established Black land grant colleges between the Civil War and 1890. The Smith-Hughes Act of 1917, which established a national secondary vocational education system, contained no provisions for equitable distribution of funds. But in 1937 the U.S. Office of Education issued a statement on the "Distribution of Funds among Negroes" urging equitable distribution of funds among Black and White schools. In 1969 the U.S. Office of Education became concerned about the dwindling trades and industrial personnel in Black colleges following the 1954 Supreme Court desegregation ruling and subsequently devoted a portion of its funding under the Education Professions Development Act (PL 90-35).

Although vocational education has continuously targeted special populations for access since 1963, both practitioners and researchers have increasingly cited the lack of attention to vocational education needs of the Black community. It was the subject of a national conference in 1977 (Sheppard & Sherrard, 1977) and sparked the formation of the National Association for the Advancement of Black Americans in Vocational Education the following year with the goal, in part, of promoting research on problems in vocational education idiosyncratic to the Black community (Porteous, 1980). A review of literature on equity and vocational education (Vetter, Winkfield, Spain, & Kelly, 1982) drew the conclusion that the three major ethnic groups--Blacks, Native Americans, and Hispanics--have been underserved by vocational education.

The objective of this chapter is to review research related to the vocational education needs of the Black population within special needs population categories; to synthesize research across education and vocational variables common to special populations; and to specify implications for educational policy, practice, and research. The major sections will cover population characteristics, historical factors, a review of literature, and recommendations.

Population Description

Socioeconomic Diversity

Although references to the Black population have been used almost interchangeably with poor or disadvantaged, the broad socioeconomic range of the Black community invalidates simplistic generalizations and treatment of needs. The Black population, somewhat reflective of the population at large, is characterized by two divergent trends--a growing middle class offset by a growing underclass. About one-third of all Black families were earning between $25,000 and $50,000 per year and considered solidly middle class in 1988, up from 13% so regarded in the 1960s when the Civil Rights Act was passed (Ellis, 1988a).

Other indicators: suburban living--about 10% of the total suburban population is Black, and in the 10 cities of highest Black suburban concentration, Blacks constitute from 27% to 69% of the suburban population; education--nearly two-thirds have completed 4 or more years of high school, almost 11% have at least one college degree; and political clout--247 Black mayors and 5,606 elected officials in 1984 (Feistritzer, 1988).

At the same time, there is a growing Black underclass characterized by a declining percentage of two-income Black families, a rapid increase in poor households headed by Blacks, an increasing percentage of Black children living with one parent, and a rapid increase in the number of households headed by Black females (Hodgkinson, 1986). The gap seems to be growing. In 1986 the top one-fifth of Black families received 47.4% of total U.S. Black income. The income of the lowest one-fifth fell from 4.1% of the Black income in 1980 to 3.4% in 1986 (Ellis, 1988b).

A number of signs show the tenuous nature of the Black middle-class position. Wages and salaries fall behind those of Whites in comparable occupations. The Black middle-class family is much more dependent on two incomes. Wives provide about 50% of the Black family income compared to about 32% in White families. Moreover, affirmative action programs have lost political support while traditional areas of Black middle-class employment--government, manufacturing, and staff positions in private industry--are facing cutbacks (Ellis, 1988a).

Demographic Trends

As a growing segment in a tight labor market, the Black population is becoming a much more important factor in U.S. productivity and economic competitiveness. In 1985 Black

Americans numbered about 26.5 million, and are projected to increase to about 44 million by the year 2020. A birthrate of 2.1 children per female is required to remain even in the population; Blacks have a birthrate of 2.4 compared to 1.7 for Whites. The Black population is also younger with an average age of 25 years old compared to 31 years old for Whites (Hodgkinson, 1985). It is important to note that the birthrate among upper- and middle-income Blacks more closely approximates that of the White population. Therefore, major increases in the Black population are likely to be among those who are facing the greatest educational and employment disadvantages, necessitating a much higher degree of sensitivity to their needs than has been the case traditionally.

Historical Factors

Education, Class, and Caste

The point is made by Mare (1981) that

> schools are people processing institutions. . . . [A]mount of schooling reflect[s] in part, variations in the socioeconomic levels of their parents and predict[s], in turn, differences in their earnings, occupational achievements, lifestyles, and political and social values. Thus, the educational system is an agent in the demographic process by which socioeconomic inequalities are perpetuated from generation to generation. (p. 98)

School systems are, however, more than mere passive agents in this process. Rather, they respond selectively to variations in socioeconomic levels.

Understanding the use of education as an instrument of caste and class maintenance is essential in understanding the nature of

Black participation in vocational education. To provide a framework for studying Black participation in vocational education, two factors are singled out for examination: (1) the degree to which stakeholders both within the Black community and between the Black and White communities perceive their interdependence; and (2) the disposition of the larger educational and industry interests toward the education of the Black population.

Historically, along a continuum of support for education of Blacks, three positions can be clearly identified--(1) those who felt there should be no differences between Black and White access to education and therefore supported education for Blacks free of restrictions; (2) those who saw education for Blacks as instrumental to their own economic progress and therefore supported limited education for Blacks; and (3) those who viewed the education of Blacks as a threat and therefore were opposed to any education for Blacks.

Black Education in Slavery and Reconstruction

Education provided for Black Americans should be viewed in the larger context of the value placed on education in the general population. American education prior to the Civil War still very much reflected classical values. Members of the educated elite in the South were schooled in the classics, an education restricted to the aristocracy. Labor was regarded as demeaning to free men (Myers, n.d.). There was clear recognition that education was power. It was illegal to teach slaves to read for fear of insurrection. Historically, however, education for Blacks has been limited to the immediate needs of the prevailing economic interests, but has fallen short of the educational goals Blacks set for themselves. On the plantations, education was offered to the slaves when it was regarded as necessary for the self-sufficiency of the plantation or otherwise profitable to the plantation owner.

Three attitudes toward support for Black education both during and after slavery have been identified by Peeps (1981). First, before the Civil War northern missionaries who never doubted the ability of Blacks to master the standard liberal arts curriculum of that day had established two bona fide liberal arts colleges for Blacks. A number of others were modeled after them later. Second, and at the opposite pole, were White supremacists who feared that any education for Blacks would render them less submissive and deferential. Third were the northern industrialists who supported education for Blacks, but at the same time accommodated the white supremacists. Their philanthropy was responsible for the prevailing pattern of Black educational institutions that was developed--limited to a preindustrial curriculum, but aimed at producing a disciplined laboring class.

Where Blacks were able to exercise preferences, they supported the highest educational goals for themselves (Tyack & Lowe, 1986). The education that was denied them as slaves and severely restricted after the Reconstruction was regarded by Blacks as necessary to their true liberation. Where Black colleges were able to finance their education from other sources, they preferred the missionary model on the order of Lincoln University in

Pennsylvania or Wilberforce in Ohio. The allocation of massive philanthropic support, however, was able to turn the tide to the industrial model (Peeps, 1981). Thomas Sowell (1976) showed that high schools under Black self-direction, particularly in areas where there were high concentrations of "free persons of color" in the antebellum era, took advantage of White indifference to Black education to build academic excellence that rivaled or surpassed White schools in the same areas. Sowell showed that when independent Black schools later came under control of White school boards, they were often forced to lower academic standards.

Against this background, we can more clearly understand the often-cited debates between Booker T. Washington and W.E.B. DuBois regarding industrial versus academic education for Blacks. Washington, a product of Hampton Institute and founder of Tuskegee Institute, was the leading Black proponent of industrial education. Concerned with the practical education of the masses recently freed from slavery, he advocated taking what was immediately available--industrial education in a segregated setting. DuBois, a graduate of academically oriented Fisk University and of Harvard Graduate School, was convinced that Black equality required developing a highly educated Black leadership, a "talented tenth" on an intellectual, social, and political par with Whites.

The nonthreatening philosophy of Washington was able to show tangible results by attracting substantial philanthropic support from northern industrialists. In the zero-sum debate, however, neither dream was brought to realization. The system of industrial education, far from training Blacks in skills necessary for the emerging industrial age, trained them in such preindustrial skills as brick making, gardening, carpentry, blacksmithing, and the like. It has been termed a "caste education" meant to distinguish the college-educated Blacks from the college-educated Whites and keep them in their place (Peeps, 1981). Thus, many Blacks have correctly viewed vocational education as it has been available to them as a limited, inferior educational alternative.

Research, Testing, and Tracking

A look at patterns of research about Blacks shows that a great deal of effort has been devoted to advancing various forms of deficiency theories of racial inequality. Conyers (1984) classified such theories into three major categories: (1) biological--inequality lies in a genetic deficiency, usually resulting in lower intelligence; (2) structural--equality lies in some group deficiency, usually the family; and (3) cultural--inequality lies in the values or attitudes of the group. In all such research, the researcher points to some problem within the group and assumes that the "deficiencies" in question are causes rather than effects of the social inequalities that they seek to explain. It constitutes an attempt to establish scientific proof of the inferiority of the "deficient" group and meritocracy (the idea that socioeconomic position is based strictly on merit) for both the underclass and the dominant group. It diverts attention from the dominant group, class structure, or the system (Bowles & Gintis, 1972-73; Conyers, 1984).

Much of the early research associated with such theories--particularly the IQ studies--not only involved poor methodology, but often outright falsification and fabrication of experiments and results (Gould, 1981). Although much of the research with the most blatant racist overtones (e.g., that of William Shockley, Arthur Jensen, Hans J. Eysenck) is not given much credence in respected literature, more subtle deficiency theories are embraced by wide segments of the research population. Deficiency theories have been used widely as a basis for such policies as tracking, ability grouping, and "dumping" Blacks into lower requirement vocational education programs.

Thompson (1986) notes that by the 1930s, the number of Black intellectuals was large enough to deal effectively with the anti-Black spokesmen of the South. Although Black researchers have played an increasing role in challenging deficiency theories since the 1970s, the research related to vocational education has been extremely limited.

Review of Research Literature

Time Frame with Rationale

The original purpose of this chapter was to review the literature related to Blacks and vocational education over the last 5 years. An examination of ERIC, PsycInfo, Sociological Abstracts, and Newspapers and Magazine Index databases turned up only 10 articles since 1983 so focused. Other articles were on minorities and vocational education or on Blacks and education broadly speaking. The decision was made to cover research over the last 10 years. A search of the databases since 1978 turned up 35 items. Of the 35 reports and articles, 18 involve original research; 3 are conference reports or proceedings; and 11 are nonresearch-based journal articles. Eight of the eleven articles are from the January 1980 edition of the Journal of Vocational Education, the entire edition of which was devoted to Black issues in vocational education.

Because of the paucity of studies on Blacks in vocational education, only a narrow range of topics is represented. Although the research topics overlap somewhat, the two greatest concerns are with access and attitudes. In spite of the narrow range of topics, the research shows an overall pattern of countering the deficiency theories traditionally propounded to explain Black inequality.

Black Student's Access to Vocational Education

Of the six research studies dealing with access to vocational education, two (Ihle, 1986; Peeps, 1981) are historical analyses. They stand as correctives to accounts that attempt to place blame within the Black community for what are regarded as substandard aspects of secondary and postsecondary educational institutions, and to accounts that characterize Black educational institutions as poor caricatures of White colleges.

The alternative accounts show that contrary to claims of White educators' fashioning education systems to meet the practical needs of the Black population after the Civil War, there was a systematic shaping of education for Blacks to "prevent [them] from gaining economic and educational parity with whites" (Ihle, 1986). The system denied Blacks the option of choosing between academic and vocational education or the opportunity of gaining critical thinking skills and preparing for full citizenship. Rather, the pattern shows the objective with respect to Blacks of molding disciplined laborers for the industrial system. The effort was effected in the immediate post-Reconstruction era by making available massive funding only for the outmoded, preindustrial curriculum (Peeps, 1981). In the years after desegregation, other factors have tended to weaken Black children's interest in education, such as a predominant emphasis on White culture, a preponderance of white teachers, and measures of achievement that work to the disadvantage of Black children (Turner, Singleton, & Musick, 1984).

Three other studies related to access focus on system or program aspects that affect Black participation. All three studies show limited participation of Black students in high skill occupational programs, but at least two positions on system responsibility are represented. A Marshall University study (Research Coordinating Unit, 1980) of Black participation in vocational-technical education in Huntington, West Virginia, was hampered in producing race-specific findings due to data collection in generalized "minority" categories. The study found few Blacks in high-skill programs and "role models for Blacks fairly invisible." It concluded, however, that race was becoming less of an issue in the minds of students because of strides since the

1960s; the schools were not at fault but low enrollment was a historical problem; affirmative action programs or those that single out a given race are unnecessary and inappropriate, but the solution calls for more information on opportunities to the population in general.

A study by the National Association for the Advancement of Colored People (NAACP, 1981) of vocational education in Oakland, California, however, holds that the system becomes a cause of unemployment among Blacks when it trains youth for nonexistent jobs or provides inadequate preparation for jobs that do exist. The study cited the lack or neglect of such programmatic elements as structured vocational curriculum, classroom to work site linkage, job placement, incorporation of successful experiences into the regular vocational program, and the full use of funds available for disadvantaged students.

The argument in the Washington-DuBois debates referred to earlier was a difference over the question of expediency in pursuing an academic or vocational path to racial equality. Recent studies have focused more narrowly on the system's differential selection process for channeling Blacks and Whites into educational and occupational paths. Collins, Noblit, and Ciscel (1978) use an ethnographic approach to show a process by which Whites are channeled into college preparatory curriculum and Blacks with similar potential are channeled into vocational programs with less demanding academic curricula. They note that the process forecloses opportunity for many of the brightest Blacks to enter the upper tiers of the primary labor market where more rigorous academic subjects are required and stagnates their chances for mobility within a firm because of their method of entry. It also denies opportunities for Black students more in need of skills upgrading and attitude change.

Kerckhoff and Johnson (1982) showed that although years of schooling is an important indicator of occupational attainment for young white men, it is less so for Blacks. Curriculum and vocational training, however, are more important indicators of success for Blacks than for Whites. Blacks who have already obtained college preparatory educational credentials are more likely than Whites to be found in manual skill-training programs. But, a college preparatory curriculum and nonmanual vocational training--that which is concerned with both people and data processing--are necessary to move them into postindustrial occupational contexts and on an occupational par with young White men.

A survey of Black leader's attitudes regarding the desirability of Black youth entering and completing vocational education programs (Randolph, 1978) showed they were of the opinion that combining quality vocational education programs with strong academic programs, a full array of support services, and testing was required for Black youth to be competitive in the job market. They also believed that Blacks needed to be overqualified to have a fair chance.

Attitudes of Blacks in Vocational Education

Although most researchers note the interdependence between access to vocational education and attitudes toward various aspects of vocational education, traditionally attitude has been regarded as the independent variable influencing access. The question is posed in a study of vocational education needs of Black Americans in Illinois (King, Keene, & Welch, 1980). The researchers looked at a number of issue areas as they relate to Blacks--vocational opportunities, discrimination, obtaining and retaining employment, educational preparation, and motivation--and asked how much is attributable to the system and how much to Black individuals. The question is not answered in the research, but it is concluded that Blacks need to become aware of more career options and encouraged to enter a greater variety of careers.

A number of researchers remark about the paucity of research on Black attitudes toward different aspects of vocational education. That which has been done has typically compared Blacks with Whites, holding attitudes of Whites as the norm and Black differences as deviations from the norm. Problems were attributed to Blacks themselves or their environment. The few studies since 1978 focus more on comparisons among Blacks themselves and on systems effects on Black attitudes.

Lee (1984), in a study of occupational aspirations and expectations of rural Black and White adolescents, found that self-concept has a greater impact on aspirations of Whites than of Blacks. He conjectures that discrimination against Blacks affects the ways in which Black youth perceive themselves and their place in the world. He pointed to the need for programmatic supports in vocational programs to counter the effects of social class and discrimination.

The study is corroborated by Chester (1983) who pointed out that researchers can better understand aspects of attitude development, not as a function of race per se, but rather as a function of the significance of race in a given environment. His research dealt with how institutional characteristics such as educational emphasis and racial composition may impact upon career-related interests and characteristics of Black high school females. The key variable is institutional interest in helping Black women develop high career aspirations regardless of the type of institution.

Studies show that one's reading of objective conditions can contribute to foreclosure of career options. John Ogbu (1986), studying Black and Mexican American occupational aspirations and attainments, suggested that collective awareness of a "job ceiling" imposed by labor market conditions contributes to their poor performance in school and, in turn, restricts job opportunities.

Manese and Fretz (1984) associated career exploration patterns with a student's level of racial self-acceptance. They suggested that Blacks may have different levels of self-acceptance due to racial discrimination. The more comfortable Black students become with their racial identity, the more realistic career exploration patterns will become. The study suggests the need for system supports to mold positive racial identify and to provide validation for delayed career choice in order to prevent foreclosure.

Nelms and Pentecoste (1982), in an evaluation of a labor market orientation program, held such programs up as valuable tools in mitigating against unrealistic career choice and as an introduction to the world of work.

Exemplary Programs

Perhaps the most powerful and irrefutable answers to deficiency theories of every kind--biological, structural, or cultural--are the achievements of students from the supposedly deficient groups. Two programs identified by Holmes (1980) in Philadelphia are profiled here.

The Murrell Dobbins Area Vocational-Technical School in 1980 had an enrollment of 2,250 students, all Black. Forty-five percent of the students were from lower income homes. The school, built in 1938, is surrounded by vacant lots and abandoned buildings.

In 1980, it had been recognized in 3 of the last 4 years as having the highest rate of academic achievement in its five-school district; the highest attendance and the lowest dropout rates of all public high schools and vocational-technical schools in Philadelphia; extremely low discipline problems; and three times the number of applicants as available slots. Recent graduates were enrolled in accounting, computer programming, engineering, architecture, and chemistry at top colleges in a number of states.

A. Philip Randolph Skills Center had an enrollment of 1,300--59% Black, 40% White, and 1% Hispanic or other. Of 290 graduates in 1979, 157 (54.1%) were Black. Eighty-four of them were placed directly into full-time jobs related to their training; 15 were placed in unrelated jobs; 32 went immediately to postsecondary technical schools, community colleges, or 4-year colleges; 14 went to the armed forces; and 12 were unemployed for a variety of reasons.

Common features that contribute to the outstanding performance of the two schools are as follows:

- High standards are set in academic and vocational achievement and in personal deportment.
- High-quality programs are tied to the labor market.
- School leadership is capable and caring.
- Instructional and support staff act as role models--they teach by precept and example.
- Employers and parent groups are interested, involved, and supportive.
- The staff seeks to serve needs equally and with empathy--they see students as individuals and not as disadvantaged or some other label.

Critique

A study by Vetter et al. (1982) of research related to equity and vocational education cited "vocational education's negligence in dealing with the special population of racial/ethnic minority groups. . . . [This] may reflect funding patterns within vocational education, as these groups may not have had the benefit of funding priorities . . . to the same extent that other groups have" (p. 22). The lack of research on Black participation in vocational education over the past 10 years pinpoints a critical area of neglect. The generalization of specific ethnic and racial minorities under the broad category "minorities" encourages non-specific data collection, encourages research too general to be meaningful for any given group, and encourages a false sense of progress by allowing inflated figures for the entire group to indicate progress for all.

Exemplary programs show what is possible given the kind of attention that allows cultural and historical factors to be drawn upon and brought to the aid of the learning process (see Sheppard, 1983). Because of the growing importance of each racial group to the future progress of the country both technologically and economically, each group should be targeted more specifically for help.

Recommendations

Given the lack of research on Black participation in vocational education, the following steps are recommended:

- More specific identification of special needs populations, particularly of racial minorities, in the Carl Perkins Vocational Education legislation.
- Funding of a study to determine more accurate numbers of Black participants in vocational education and the program types in which they are participating
- The collection of data on vocational education participation at all levels by race
- Support for more Black Ph.D.'s in vocational education to ensure a future pool of talent both for research on Black (as well as other) issues in vocational education, and to ensure future role models
- Funding for research on building cultural relevance into vocational education curricula
- Funding for research on the counseling needs of Black students

- Encouragement of research to identify exemplary programs of Black participation and achievement in vocational education and to synthesize information about the factors contributing to their success
- The development of evaluation instruments with a more precise description of the population to be served

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LIMITED ENGLISH PROFICIENT PERSONS

Joan E. Friedenberg

The LEP Population

There are between 35 and 40 million people in the United States who speak a native language other than English (Oxford, R., Pol, L., Lopez, D., Stupp, P., Peng, S., and Gendell, M., 1980). Although the majority of this population is Spanish speaking, it also includes persons who are Asian, European, Middle Eastern, African, and Native American. For example, between 1975 and 1985 over 1 million refugees entered the United States: 730,000 from Southeast Asia, 100,000 from the Soviet Union, 60,000 from other Eastern European countries, 30,000 from Latin America, 25,000 from the near East, and 12,000 from Africa (Crandall, 1985). Unlike some other special population group, the number of non-native speakers of English is expected to increase significantly. In fact, according to a recent study commissioned by the U.S. Department of Labor, Workforce 2000, "Immigrants will represent the largest share of the increase in the population and the workforce since the First World War," and "Women, minorities and immigrants will account for over 80 percent of the net additions to the labor force between now and the year 2000" (Johnston & Packer, 1987).

This population represents not only different language and culture backgrounds, but different educational and employment backgrounds, social and economic classes, and attitudes and expectations. In addition, although many are immigrants, others are migrants, citizens, and refugees.

It is estimated that between one-third and one-half of non-native speakers of English are limited English proficient. Limited English proficient persons are those individuals who were born in a country where English is not the primary language or raised in an environment in this country where English is not the dominant language and who, as a result, experience difficulty in understanding, speaking, reading, or writing English to the point where such difficulty is a barrier to education and employment.

Since the number of immigrants is significantly increasing, it is only natural that the number of LEP students will also increase. Former Secretary of Education Terrell Bell (1984) has indicated that if present trends continue, by 1990, nearly 25% of all school-aged children will be limited English proficient.

LEP persons are more likely to be unemployed or under-employed, to have dropped out of school, and to be enrolled below the expected grade level than the national average due to poor English skills, cultural differences, and discrimination (National Commission for Employment Policy, 1982). For example, LEP students find it difficult to understand their English-speaking instructors, peers, counselors, and school administrators, or their English-written textbooks, training manuals, instruction sheets, and tests. Later, language problems hinder LEP persons' ability to understand classified ads, job applications, and employment interviews. Once on the job, LEP persons have difficulty understanding supervisors, trainers, peers, clients, customers, personnel forms, union notices, requisitions, and other forms needed to do the job.

Culture-related difficulties are less obvious though not less detrimental than language problems. Examples of cultural differences may include dressing differently; isolating themselves from English-speaking Americans; lacking experience with co-education, sex equity, and informal teaching styles; having different personal hygiene and grooming practices; interpreting a reprimand as a dismissal; and having different perceptions of time and punctuality.

More than half the LEP persons in the United States are Hispanic. Hispanic Americans are nearly twice as likely as majority White Americans to be poor. They are less likely to be employed in professional and technical jobs. Nearly one-third of Hispanic Americans live below the poverty level and 40% of Hispanic children live in poverty. Over 60% of Hispanic households headed by women live below the poverty level (Orum, 1985).

One reason for these problems may be the relatively high school dropout rate for Hispanic as well as other LEP populations, since LEP youth drop out at a much higher rate than non-LEP students (Illinois Task Force on Hispanic Student Dropouts, 1985). According to the U.S. General Accounting Office (1987), approximately one-third (31%) of all Hispanic youth aged 18-21 have dropped out of high school, as compared to 17% for Black and 15% for White students. Of Hispanic persons over 25, 55% have dropped out. Hispanic students drop out of school earlier than other groups of students, and Hispanic students who speak Spanish at home are three times as likely to drop out of school as English-dominant Hispanics (Orum, 1985). Conversely, studies on both

Chicago and San Diego show that Asian American students from English-speaking homes perform more poorly in school than those whose families speak their native language (Brand, 1987).

The dropout problem is even more critical in large cities. For example, the National Council of La Raza (Orum, 1985) indicates that the dropout rate for urban Hispanic youth may be more than two-thirds. One recent national report found, in urban high schools, a dropout rate of 80% for Puerto Rican and 85% for Native American students (High School Dropout Prevention Network of Southeast Michigan, 1985). In Chicago, the overall dropout rate is 43% (Azcoitia & Viso, 1987). The dropout rate for Hispanic students in Chicago high schools with over 50% Hispanic enrollments ranges from 50% to 56%. The four Chicago high schools with the highest numbers of Asian-American students have an Asian-American dropout rate ranging from 21% to nearly 40% (Chicago Panel on School Finances, 1985).

In New York City, the overall dropout rate is between 35% and 44% (High School Dropout Prevention Network of Southeast Michigan, 1985). The rate for LEP students is over 50%. During the 1982 school year, 36% of all LEP 9th and 10th graders dropped out; 23% of those remaining dropped out in the eleventh grade; and 13% left school in their senior year.[1]

Besides dropping out of school, LEP students are more likely to be enrolled below the expected grade level (Friedenberg & Bradley, 1984), a known indicator of dropping out. According to the National Council of La Raza (Orum, 1985) one-third of Hispanic students who are in the 1st to 4th grades, 40% who are in the 5th to 8th grades, and 43% who are in 10th grade are enrolled below the expected grade level. These students are often significantly older than their fellow classmates, frequently suffer from low self-concept and numerous discipline problems, and are generally at risk of dropping out. In fact, being held back once increases their chances of dropping out by nearly 50%, and being held back twice increases their chances by 90%.

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[1] Personnel communication with Laura Rodriguez, assistant program manager, High School Bilingual/ESL Programs, New York City Board of Education, Brooklyn, New York, 1987.

Pertinent Legislation

From the initial founding of America, various nations vied for dominant governing rights over land already settled by Native Americans. As a result, each group of settlers possessed a different native language. Over the years, however, English was eventually established as the predominant language as the English nation asserted its ownership of the area now known as the United States. Those who did not speak English were considered what we call today limited English-proficient (LEP) individuals.

Early Legislation

The experience of LEP individuals in the United States since the country's founding has been complex and fraught with difficulty. Particularly in the area of education, a tracing of historical events shows a broad range of feelings, from acceptance to rejection, regarding the assimilation into U.S. culture of those who possess a cultural orientation and predominant language other than English. Conversely, those who predominantly spoke other languages have not universally agreed that English should be the official language of the United States.

In the 1830s, for instance, the states of Ohio and Pennsylvania passed laws allowing German schools to be established. This was because of the predominance of German-speaking citizens in those geographic areas. In these schools, bilingual instruction in German and English was a regular part of the curriculum (Castellanos, 1983, p. 20). Various other states have allowed bilingual instruction to meet the needs of their non-English-speaking populations. In the 1850s and 1860s, public bilingual instruction was allowed in Arizona, Illinois, Iowa, Kentucky, Minnesota, and New Mexico.

From the late 1800s until the 1960s, the prevalence of bilingual education declined, in part because of the two world wars that contributed to nationalist and isolationist feelings throughout the country (Bradley & Friedenberg, 1988). English once again became the only official language of instruction. Some states passed laws to reinforce this decision.

By the 1960s, however, various changes took place. At this time, the U.S. government began to address the issue of speakers of languages other than English in the United States educational system with passage of three acts: the Vocational Education Act of 1963, the Civil Rights Act, and the Bilingual Education Act of 1968.

The Vocational Education Act of 1963 (PL 88-210) was meant to assist the states in improving their vocational education programs, including programs for persons who were already in the labor market but needed training or retraining. Funds could be used to aid persons with academic, socioeconomic, or other handicaps hindering their success. Although this act was not the first addressing vocational education, it is considered landmark legislation because it addressed the issues of equity and access in vocational education. (It did not, however, specifically name limited-English speakers in its provisions.)

The second act, the Civil Rights Act passed in 1964, spelled out equality requirements for every aspect of public life, including schools. Though it focused primarily on blacks as minorities, it had a side-effect of encompassing all other ethnic minorities.

A bill that eventually became law (but with major changes) was introduced in 1967 by Senator Ralph Yarborough of Texas. He recognized the unique needs of Spanish-speaking Americans in the Southwest where the United States had taken over the land and the people and imposed its own culture on them (Castellanos, 1983). The wording of his bill addressed these people's need for bilingual education, as well as their need to retain knowledge of and identification with their native culture.

The limitation of the bill only to Spanish-speakers was protested by other legislators, however, and the Yarborough bill was eventually rewritten and merged with others to become Title VII of the Elementary and Secondary Education Act of 1965, or the Bilingual Education Act (PL 94-247). Passed in 1968, it was landmark legislation in that it urged local educational agencies to develop new and imaginative elementary and secondary school programs to meet the needs of millions of LEP children in the U.S. educational system. Of particular importance is the fact that it expanded previous legislation beyond the needs of Spanish-speaking individuals to include Native Americans (mentioned specifically) as well as other language speakers. It also tied bilingual education to vocational education by specifying that programs eligible for funding included those conducted by accredited trade, vocational, or technical schools.

The act had some weaknesses, however. Although it was meant to support the maintenance of native language skills and understanding of students' cultural heritage, in effect it served to phase out the students' mother tongue by providing assistance only until the individual was proficient in English. In other words, it treated proficiency in another language as a deficit to be overcome. Further, it set up the potential for segregation of these linguistic minority children, which did in fact occur (Castellanos, 1983).

Vocational Education Amendments of 1974 and 1976

With the passage of the Vocational Education Amendments of 1974 (PL 93-380), LEP persons were mentioned specifically in the context of vocational training. Then with the Vocational Education Amendments of 1976 (PL 94-482), funds were specifically earmarked for national bilingual vocational training (BVT) projects, bilingual vocational instructor training, and development of bilingual vocational materials, methods, and techniques. One of the most important results of these federally funded programs was development and testing of the bilingual vocational training (BVT) model, which is generally considered to be the ideal instructional delivery system for LEP vocational students (Friedenberg, 1987).

Job Training Partnership Act (JTPA)

Passed in 1982, JTPA (PL 97-300) replaced the Comprehensive Employment and Training Act of 1973 (CETA) and is meant to establish programs that prepare youth and unskilled adults for entry into the labor force, especially those who are economically disadvantaged or who face serious barriers to productive employment.

JTPA programs are administered in each local community (called service delivery areas) by a private industry council (PIC). The PICs must be made up primarily of members from the private sector rather than from education or government.

Limited English-proficient individuals are specifically mentioned as being eligible JTPA participants in Title II, Part A, Section 203(a)(1). Bilingual training is also specifically mentioned as one possible use of funds under Section 204 of the same title. Title IV, Part A, specifies employment and training programs for Native Americans and migrant and seasonal farmworkers, many of whom have limited English proficiency.

Although JTPA programs are meant to and do serve LEP individuals, a study by the U.S. Employment and Training Administration found it is unlikely that bilingual training in on-the-job training is being conducted extensively throughout the country (Office of Strategic Planning, 1986). No evidence of students' native language use was found in either remedial or classroom skill training programs. Another study (Sandell & Rupp, 1988) indicated that when examining participation patterns of minorities in JTPA, it was found that unemployed Hispanic men have substantially lower program participation rates than other groups, which may be attributed to various factors, including "language problems that preclude their participation in some JTPA programs" (p. 42). This statement reinforces the idea that bilingual training is not being offered in JTPA programs.

Carl D. Perkins Vocational Education Act

In 1984, the Perkins Vocational Education Act (PL 98-524) was passed, replacing previous vocational education legislation and greatly expanding services to LEP individuals. References to this population are not confined to a single section of the act (though LEP individuals are specifically mentioned in the section on programs for the disadvantaged), but permeate all four major titles of the act. Fifty-seven percent of the Perkins funds are targeted for special needs populations programs and services. Twenty-two percent are earmarked for disadvantaged, including LEP (Friedenberg, 1987).

The Perkins Act recognizes that LEP individuals have been inadequately served under vocational education and sets access to quality vocational programs as a primary emphasis. The act also mandates the following:

- Each local education agency must provide information to LEP students and their parents about vocational opportunities prior to the 9th grade (Section 204(b)).

- All vocational students are to receive guidance, counseling, and career development activities by professionally trained counselors (Section 204(c)(3)).
- As an additional aid to planning and student placement, assessment is required of all students' interests, abilities, and special needs (Section 204(c)(1)).
- Once enrolled in a vocational program, LEP students are to receive necessary instructional and ancillary support to ensure their full participation, such as adaptation of curriculum, instruction, equipment, and facilities (Section 204(c)(2)).
- Counseling services designed to facilitate the transition from school to postschool employment and career opportunities are required (Section 204(c)(4)).
- Prevocational preparation programs that focus on motivation, basic skills development, and career exploration, are to be made available through funding to community-based organizations (Title III, Part A).
- States can expand the capability of their vocational programs by using resources from the private sector and community, especially when there is a scarcity of vocational facilities (Section 252(b)).
- All mentioned services are allowed for adults (in addition to youth) but are not required. (Friedenberg & Lopez-Valadez, 1987)

Part "E" of the Perkins legislation also establishes funds for three kinds of bilingual vocational education (BVE) projects. Targeted only for LEP adults and out-of-school youth, BVE funds are used for Bilingual Vocational Training (BVT) projects, Bilingual Vocational Instructor Training (BVIT), and Bilingual Vocational Materials, Methods, and Techniques (BVMMT) projects.

Immigration Reform and Control Act of 1986

PL 99-603 was passed to amend the earlier Immigration and Nationality Act. Its primary purpose is to control unauthorized immigration to the United States. However, as part of its mandates, it authorizes legalization of undocumented aliens who meet certain eligibility criteria. At the same time, it sets forth stipulations for controlling practices related to illegal immigration (e.g., in relation to such employment practices as unlawful employment of aliens), provides legalization of those already in the United States, and reforms legal immigration requirements (with regard to agricultural workers, for instance).

Although the law has no direct reference to vocational education or job training for limited English-proficient individuals, it has important implications for these areas. The law is expected to result in a million or more new U.S. citizens, many of whom will be free to enroll their children in school or enroll themselves in job training programs. In short, these individuals, many of whom could benefit from vocational education, and many of whom have limited proficiency in English, will become part of the eligible population for vocational education at the secondary or adult levels. Furthermore, if they are not served adequately and if they fail to gain job skills, they could become contributors to this country's unemployment or underemployment statistics.

There are additional implications of the act for schools, training programs, and employers in that personnel are likely to receive requests for information about the legalization process. They should be adequately prepared to give information on where interested individuals can receive counseling and evaluation of eligibility (the Immigration and Naturalization Service designated various community groups to provide this assistance). Note, too, that enforcement of the immigration law is the responsibility of the INS, not of schools, training programs, or employers. Supreme Court decisions stipulate that children residing in a given school district have a right to a free public education, regardless of immigration status (The new immigration act, 1987).

Economic Dislocation and Worker Adjustment Assistance Act

Passed in 1988 as Subtitle D (Employment and Training for Dislocated Workers) of the Omnibus Trade Bill, this act addresses the employment and training of dislocated workers. In doing so, it formally amends Title III of JTPA and is know informally by the title Economic Dislocation and Worker Adjustment Assistance Act.

Of particular relevance to LEP populations is the portion that amends Section 203(b) of the Education for Economic Security Act to provide grants for creating exemplary demonstration projects. The purpose of the program is to create partnerships among business, industry, labor organizations, private industry councils, state or local education agencies, and schools in the provision of programs teaching literacy skills needed in the workplace (Adult literacy, 1988).

Section 314 specifies that "funds allotted under Section 302 may be used to provide training services under this part to eligible dislocated workers. Such services may include (but are not limited to)--

(A) classroom training;
(B) occupational skill training;
(C) on-the-job training;
(D) out-of-area job search;

(E) relocation;

(F) basic and remedial education;

(G) literacy and English for non-English speakers' training;

(H) entrepreneurial training; and

(I) other appropriate training activities directly related to appropriate employment opportunities in the substate area. (Text of the Economic Dislocation and Worker Adjustment Assistance Act, 1988, pp. 1201-1202)

This training is meant to help meet the literacy needs of adults with limited English proficiency.

Family Support Act of 1988

PL 100-998 is known in common terms as the welfare reform act. This is because it covers numerous major issues relating to aid for families through the government welfare system or Aid to Families with Dependent Children. Of key importance within the legislation is Title II--Job Opportunities and Basic Skills Training Program. The law requires all states to establish or continue operating a job opportunities and basic skills training program to ensure that needy families with children obtain the education, training, and employment that will help them avoid long-term welfare dependence. This program is known as the JOBS program, and all nonexempt recipients of Aid to Families with Dependent Children will be required to participate. In particular, the JOBS program authorizes a broad range of services and activities that include "educational activities (as appropriate), including high school or equivalent education (combined with training as needed), basic and remedial education to achieve a basic literacy level, and education for individuals with limited English proficiency" (Family Support Act of 1988, Title II--Job Opportunities and Basic Skills Training Program, Section 482(d)).

Two other points of interest are that (1) states may reserve funds normally due individuals under Aid to Families with Dependent Children and use it to subsidize jobs for these same individuals (called the Work Supplementation Program), and (2) Indian tribes and Alaska Native organizations may apply to conduct these job opportunities and basic skills training programs to meet the goals of the law.

Title III of the act is devoted entirely to provision of supportive services for families during participation in employment, education, and training. This includes child care, transportation and work-related expenses, medical assistance for dependent children, and allowance for continued medical assistance during transition from welfare to paid employment.

Under Title V, demonstration projects, one category of interest covers the area of testing the effect of in-home and preschool center-based early childhood development programs. In particular, states may initiate projects that enhance cognitive skills and linguistic ability of children under the age of 5, "to improve the communications skills of such children, and to develop their ability to read, write, and speak the English language effectively" (Section 501(a)(1)).

Demonstration projects are also authorized under Title V to provide counseling and other support services to high-risk teenagers. The act specifies that "the incidences of teenage pregnancy, suicide, substance abuse, and school dropout are increasing" and that "research to date has established a link between low self-esteem, perceived limited life options and the risk of teenage pregnancy, suicide, substance abuse, and school dropout" (Section 506(a)(1)). These programs are relevant to LEP teenagers who experience low self-esteem due to language difficulties in school, who are at risk of dropping out of school, and who, due to family and other circumstances, fall in this at-risk category.

Existing Programs and Services

Special programs and services for LEP vocational students exist in a variety of contexts. Some are special federally funded programs administered by federal departments such as education or labor, which are described in the preceding section on legislation. Others are simply formal or informal efforts by local education personnel to help LEP students, and others are business and industry based, designed to increase employment of LEP persons or increase their chances for success and upward mobility on the job.

Bilingual Vocational Training Programs

Since 1976, the Office of Vocational and Adult Education (OVAE) of the U.S. Department of Education has funded a modest number of bilingual vocational training (BVT) programs throughout the United States each year. Probably the most important contribution made by these federal programs is the development of the

BVT model. This model is often considered to be the most effective instructional delivery system for LEP vocational students. It consists of the following seven components:

1. Target recruitment specifically to LEP students (examples: producing promotional materials in the potential trainees' native language), advertising in the native language mass media).
2. Institute intake and assessment procedures that are appropriate and nonexclusionary (examples: test vocational interest and aptitude in the native language, test for English language proficiency and native language proficiency).
3. Adapt vocational instruction so that students do not have to be proficient in English before learning a trade (examples: use bilingual instruction and materials, simplify English).
4. Provide vocational English as a second language (VESL) instruction that is taught by a trained ESL instructor and focuses specifically on the student's vocational area (examples: offer auto mechanics ESL, data entry ESL, food services ESL).
5. Offer counseling and support services that take the special needs of LEP students into account (examples: refer students to appropriate agencies that provide immigration counseling and social and health services in the native language, offer bilingual and culturally sensitive personal and professional counseling).
6. Promote job development and placement geared to the special needs of LEP individuals (examples: foresee and counsel employability problems resulting from cultural differences, prepare employers for LEP and culturally different employees).
7. Coordinate the previous six elements so that each supports the other (example: make sure that the VESL and vocational instruction are coordinated so that the VESL instructor is teaching the vocabulary and grammar used in vocational classes).

Currently, federally funded BVT programs exist at Chinatown Manpower, Inc., New York City, which trains Chinese-speaking adults in word processing and automated bookkeeping; Chinatown

Resources Development Center, San Francisco, which trains Chinese and Spanish-speaking LEP students in clerical trades; United Cambodian Community, Inc., Long Beach, California, which trains Cambodian, Vietnamese, and Laotian students in electronic assembly; Community College of Denver, which provides training in bookkeeping and child care to Spanish-speaking students; Spanish Education Development Center, Washington, D.C., which provides Spanish-speaking students with training as child-care workers; New York Association for New Americans, Inc., which provides training in drafting for Russian-speaking persons; Houston Community College, which provides Spanish-speaking students with training in air conditioning and refrigeration as well as in residential and industrial electricity and diesel mechanics; and Arlington County Public Schools, Arlington, Virginia, which trains Vietnamese and Spanish-speaking students in building trades, clerical, food service, and printing.

Review of the Literature

Continued lack of participation in vocational education by LEP students is a critical problem in the United States. For this reason, this review of the literature focuses attention on areas designated by the Carl Perkins Vocational Education Act as important to improving participation by LEP individuals. In fact, it was recognition of the participation problem that prompted the authors of the legislation to use language placing an important emphasis on involving the LEP population in vocational education.

Specifically, the act earmarks 57% of the basic state grant for programs and services to those with special needs who require additional support in order to succeed in the vocational education system. Twenty-two percent of this allotment is specifically designated for disadvantaged students and students with limited proficiency in English.

Hard research data dealing with serving limited English-proficient students in vocational education are scarce. This in itself says a great deal about the subject area and the emphasis it has received in the field. As might be expected, what research does exist points out deficiencies in the system with regard to preparing LEP individuals for jobs through vocational education.

Despite this, a number of exemplary practices also surface, which is vastly important to future work to be performed. These practices are identified in research reports, evaluation studies of demonstration programs, and other literature. This section addresses the issues of access to vocational education, support services, and other exemplary practices, especially as they pertain to passage of the Perkins Vocational Education Act.

Access to Vocational Education

Ensuring access to vocational education for special populations is one predominant theme of the Perkins Act. It was included as such because LEP students are generally under-represented in vocational-technical programs at both the secondary school and adult education levels. This is in spite of the fact that the LEP population is growing in the United States.

For instance, the 1980 Census showed that out of California's total population of approximately 23.6 million people, 1.23 million of these were LEP individuals. Even if this proportion remained the same (and it is expected to increase in favor of LEP individuals due to increased birthrates and immigration), the projected total LEP population for 1990 would be 1.45 million based on a 1990 projected total population of 29 million (Rezabek, 1985).

Some school systems have had legal action brought against them for failing to provide access. In other words, they were discriminating against student entrance into vocational education programs based on their national origin. Historically, such suits are governed by the 1974 Lau decision made by the U.S. Supreme Court (Lau v. Nichols). The decision that a San Francisco school district was discriminating against 3,000 Chinese-speaking students was made based on Title VI of the Civil Rights Act of 1964 which prohibits exclusion from programs and denial of benefits to any person on the basis of race, color, or national origin (Bradley & Friedenberg, 1988).

Today, what is termed the "Lau Remedies" outlines educational approaches found to be appropriate affirmative steps toward opening instructional programs to LEP students. School systems encountering litigation have been required by court rulings to identify, classify, and serve students whose English language deficiencies prevent them from participating effectively in the learning process.

Still, lack of access is a persistent problem. The following problems are typically encountered by LEP students nationwide:

- LEP students are enrolled primarily in academic programs and are underrepresented in vocational-technical education programs.
- Bilingual and ESL support services are offered in conjunction with academic programs but not with vocational education programs.
- The application rate of LEP students to vocational-technical education program options is disproportionately low in comparison to their enrollment in the student body.
- The acceptance rate of LEP students who apply to vocational-technical programs is disproportionately low in comparison.
- Insufficient information about vocational education opportunities is disseminated to LEP students and their parents. Most recruitment and informational materials describing vocational education programs are in English only.
- Screening tests and interviews are conducted entirely in English.
- Standardized reading test scores in English are used as a selection criterion for some high schools.

The Perkins Vocational Education Act mandates specifically that each local education agency is to provide information to LEP students and their parents concerning vocational opportunities prior to 9th grade. In other words, adequate recruitment is to take place. It is at the point of recruitment that lack of access often begins.

Recruitment. A national study examining the condition of vocational education for LEP students (both adult and secondary level) in the United States determined that few comprehensive high schools outside those funded as BVT demonstration projects make any concerted effort to recruit any students, let alone LEP students, into their vocational programs. Further, many secondary guidance counselors were shown to have a strong bias against placing LEP students in vocational programs. This is because most bilingual and ESL services are available and have been secured for academic programs, but not for vocational programs (Friedenberg, 1987).

A local study of Clackamas County, Oregon (Love, 1988), showed that no recruitment materials were available in the school district and no special recruiting was done to attract LEP students.

On the positive side, demonstration projects show that efforts made to recruit LEP students into vocational programs using a bilingual approach invariably have positive results. For instance, one bilingual vocational training (BVT) project funded by the Office of Bilingual Vocational Education, U.S. Department of Education, received 250 Spanish- or Polish-speaking applicants from a multifaceted community outreach campaign in the Chicago metropolitan area (Pankratz, 1987). Only 60 trainees could actually be admitted to the program. Students who enrolled said they learned about the program through the native language mass media (57%), from schools (15%), and from native language public assistance agencies (11%).

Effective recruitment customarily involves training of staff to be familiar with the following:

- Development of a recruitment plan (which includes, for example, identifying the language and cultural groups to be recruited, determining best networks and channels of communication)

- Development and distribution of bilingual promotional materials (e.g., bilingual program brochures developed and distributed to schools, libraries, community centers, and churches)
- Planning for and use of bilingual mass media (e.g., production and placement of public service announcements in native language newspapers and on native language radio and television
- Conduct of bilingual open houses and visits into the community (e.g., presentations by training project staff, aided by bilingual staff or students as translators, at schools and community centers) (Friedenberg, Gordon, Bradley, & Dillman, 1988)

One study (Troike, Golub, & Lugo, 1981) of nine adult-level BVT programs showed that word of mouth was a particularly important source of information for the majority of program applicants. In this context, word of mouth means use of graduates to disseminate information (through informal efforts and planned program outreach). This approach was of course most effective after a program had completed at least one cycle and the resulting graduates had organized into an alumni association.

In summary, access to vocational education programs should be based on interest, not on ability. When asked why they applied to take part in vocational education courses, LEP students and trainees often indicate their interest in the subject matter as the motivating factor. Yet this interest is frequently not taken into consideration when determining their eligibility for courses.

Intake/assessment. As an aid to planning and student placement, the Perkins Vocational Education Act mandates that all vocational students' interests, abilities, and special needs will be assessed (Section 204(c)(1)). The point of program intake is often when assessment takes place. All programs, whether at the adult or secondary-school level, have certain criteria that individuals must meet in order to be accepted. However, a national study (Friedenberg, 1987) showed that the following undesirable practices exist in assessing LEP students:

- Many vocational high school relied solely on feeder schools to assess students.
- Nearly half the school in the study did not use valid instruments to assess English language proficiency.
- Most vocational programs did not assess vocational interest and aptitude or basic skills in the native language.
- Most vocational programs use English language tests as screening rather than diagnostic tools.

Instruments can be invalid if they are designed for English speakers only. LEP individuals usually do not do well on such tests, especially those that do not assess the actual developmental level of English acquisition. The national study of non-BVT programs (Friedenberg, 1987) showed that of all the commercially prepared English proficiency testing instruments, the most frequently used were the Language Assessment Scales (21% of the schools in the study), which not only do not assess the developmental level of English acquisition, but also rely on an outdated list of common words (Love, 1988).

A number of project evaluation reports exist that show appropriate use of assessment instruments for diagnostic purposes. These schools conducted projects meant to serve all students identified as having limited English proficiency. In other words, the tests were used as diagnostic tools to determine the need for ESL, bilingual instruction, and other special services, rather than as a screening device barring them from vocational education courses.

Park West High School in New York used, for instance, the English version of the Language Assessment Battery to identify students lacking English proficiency but having a comparatively higher level understanding of Spanish (as determined using the Spanish Language Assessment Battery and the Spanish La Prueba de Lectura). Based on these tests, on previous poor academic performance, and on a desire to enroll in one of the school's vocational programs, 229 students were admitted to the Vocational and High School Equivalency Bilingual Program (Park West High School, 1985-86).

At New Utrecht High School, Brooklyn, New York, 379 students identified as having limited English proficiency were served in a project offering ESL, native language arts, and bilingual content-area courses (including vocational courses). Again, scores below a certain percentile on the Language Assessment Battery (English version) constituted the basis for project participation--in addition to interviews with the students and their parents. Moreover, results shows that attendance rates of project students were significantly higher than the schoolwide rate (85.9% for program students versus 75.6% for schoolwide attendance) (Project BITEC, 1985-86).

Support Services

Once access to vocational education has been achieved, the Perkins Vocational Education Act mandates that all vocational students receive the instructional and ancillary support services necessary to ensure full participation. Specifically, they are to receive "guidance, counseling, and career development activities by professionally trained counselors" (Section 204(c)(3)). Secondary-level students who have limited English proficiency are, in particular, to receive "counseling services designed to facilitate the transition from school to postschool employment and career opportunities" (Section 204(c)(4)).

Studies show that LEP students tend to be ill-informed about the work world and need an orientation to how the American job market operates and what is expected in the workplace regarding training, work habits, and attitudes (Love, 1988, p. 16). They need counseling, but not counseling that fails to inform them of vocational education options. Friedenberg (1987) found that counselors in secondary schools frequently advise students to enter academic programs, since that is where bilingual instruction is usually found.

The study of nine adult-level BVT programs (Troike et al., 1981) found several factors relating to counseling critical to trainee success. Counseling in these programs "embraced something much broader than the traditional concept. It went beyond mere employment and personal advising to embrace all of trainees' needs that might affect participation and achievement in the program. Most programs had at least a part-time counselor, but counseling was also provided by most staff members as needed. Use of trainees' native language in counseling was essential, as was identity of the counselor as a member of the trainee's cultural group.

The same study also emphasized the importance of vocational counseling as an important component of bilingual vocational training, as well as access by the staff member doing counseling to as much information as possible about each trainee's background (such as test results, personal background, previous work or training experience). In the programs studied, vocational counseling typically offered information on how to get a job (e.g., job seeking skills, job applications, and interviews) as well as how to conduct oneself on the job (e.g., absenteeism, courtesy and cooperation). When counselors were not busy in direct counseling, they sought out prospective employers for job placement.

Preemployment counseling, often presented in group training sessions with a workplace orientation, is recommended for LEP individuals who are unfamiliar with what employers expect of workers in the American workplace. For one project based in Indonesia that prepared refugees for entry into the United States (Johnston, 1985), such training concentrated on four major areas: (1) workplace rules and policies (e.g., rules about absences, safety rules and safety clothing), (2) understanding U.S. attitudes about time in the workplace (e.g., the importance of meeting deadlines and submitting accurate time sheets), (3) how to handle money in the United States (e.g., understanding pay deductions, how to use banks, how to pay bills), and (4) workplace behavior (e.g., social relationships on the job, taking instruction or feedback from supervisors, asking for input or assistance).

Many research efforts have been undertaken to investigate the problems and practices in implementing the BVT model in the federally funded BVT programs. However, little research has been undertaken on whether programs without special federal funding are using the model. Friedenberg's (1987) 1-year study examined secondary and adult vocational programs in seven areas of the United States with large numbers of LEP persons but no federal BVT funding. The results indicate that although most programs do not recruit, assess, counsel, or instruct LEP vocational students appropriately, a few individual programs demonstrate some outstanding practices in working with LEP students.

Successful strategies for working with LEP students that were found in vocational classes not having the benefit of federal funding include the following:

- Simplifying the English on tests
- Translating tests
- Providing bilingual dictionaries
- Using more demonstrations and visual aids
- Frequently reviewing the names of equipment
- Using bilingual peer tutors
- Speaking English more carefully
- Spending time after hours to tutor LEP students

- Getting the audio portions of slides and tapes translated
- Learning and using a little of the students' native languages to greet and praise them
- Translating handouts
- Ordering textbooks in other languages to use as reference
- Bringing bilingual retired persons in from the community to tutor and to act as role models
- Labeling the equipment around the room in English
- Labeling the equipment around the room in students' native languages
- Getting instruction translated onto a cassette tape

Staff Development

The Carl Perkins legislation makes it clear that special needs students must be served by appropriately trained staff. However, Friedenberg (1987) found that although many vocational educators have had some training in serving students with disabilities, few have been trained to work with LEP students. In fact, she found that most ESL teachers do not even have formal training in ESL, let alone vocational ESL. In addition, she found that most vocational counselors, job placement specialists, vocational teachers, administrators, and ESL teachers who work with LEP vocational students have never had any preservice or inservice training related to LEP vocational students, bilingual vocational education, or vocational ESL.

Besides a lack of training, there is a singular lack of coverage about limited English-proficient learners in texts about vocational education for special needs populations. Although a few mention this population as being one with special needs, there is little actual detail about how to work with this population or the accepted techniques for doing so. Several illustrations serve to make this point.

Sarkees and Scott (1987, 2nd ed.), for instance, in their Vocational Special Needs text, define LEP thoroughly and accurately. They also address the topic later, giving a short review of this population's lack of access to vocational education, the necessary services for helping such learners succeed in vocational courses, and a short list of general strategies for working successfully in vocational programs with LEP individuals. However, the majority of this textbook is still basically oriented toward how to serve disabled individuals. For the practitioner or policymaker who must actually provide assistance to LEP learners, the coverage serves as a general orientation rather than an actual how-to guide.

Meers (1987), in his work titled Handbook of Vocational Special Needs Education, also defines the LEP learner and mentions some of the difficulties experienced by this population. Again, however, this text is meant primarily for those working with disabled learners.

Marozas and May (1988), in their work Issues and Practices in Special Education, also address the problem of bilingual education in a nonvocational context. They devote several pages to the discussion, including a lengthy list of suggested competencies for teachers of bilingual exceptional children. Missing, however, is the detail about how to serve the population. The text serves more as a general orientation to the problem of serving LEP students, with the majority of the book devoted to serving disabled learners.

Recommendations

Improving the condition of vocational education for LEP individuals, be they young high school students, out-of-school youth, or adults, requires a serious commitment by the federal government, state education agencies, colleges and universities, local education agencies, individual educators, professional associations, business and industry, the media, community-based organizations, commercial publishers, and LEP persons themselves. The following recommendations, at a minimum, should be implemented to achieve improvement.

At the Federal Level

- Controlled research should be conducted on the effectiveness of the BVT model to test such aspects as the importance of each component individually and their importance to the working whole, or the outcomes over time for students trained using the model.
- More documentation should be gathered regarding
  - the effectiveness of BVT programs (e.g., specific factors that contribute to their success);
  - the number of LEP students (both youth and adult) being served in vocational education;
  - assessment instruments being used and their effectiveness;
  - recruitment methods used that yield the most favorable results;
  - how funds allocated under the Perkins Vocational Act are being spent for LEP learners.

- Bilingual vocational instructional resources and resources for staff training should be pooled at a central clearinghouse location so that anyone working in the field could call one source and receive all relevant materials for a basic price that only recovers the cost of their production.

- The federal government should fund LEP vocational research to support effective service to this population. As of this writing, no federal funds are being used to support research efforts in this area.

- The federal bilingual vocational training projects must continue to operate in order to train at least a modest number of LEP students effectively, to serve as demonstrations for other programs, and to prepare staff so that service to LEP students can continue after funding ends.

- Other federal training programs that serve LEP persons (e.g., under legislation dealing with bilingual education, refugee assistance, JTPA, migrant education) should learn more about the benefits of the BVT model and should be encouraged to adopt it in their funded projects.

- Programs funded under bilingual education and vocational education legislation should receive immediate fiscal support and encouragement to adopt the bilingual vocational training model in order to address the needs of secondary LEP vocational students.

- The Perkins Vocational Education Act should be amended to provide federal set-aside funds specifically for LEP individuals as a separate category instead of grouping them with the disadvantaged set-aside.

At the State Education Agency (SEA) Level

- SEAs should identify practices or policies that exclude LEP students from entering or successfully completing vocational education programs.

- SEAs should review existing state policies to ensure that they do not conflict with federal civil rights policies.

- SEA leaders should visit areas in their states with the largest LEP populations to gain firsthand knowledge of how state policies affect local populations, particularly the effects of state requirements on LEP persons.

- SEAs should hire a full-time person at the state level who is properly trained and can be a strong advocate for LEP students in the state.

- SEAs should consider setting aside, for LEP students, a specific part of their funds allocated under the Perkins Act, taking into consideration the fact that this amount should not be based on current LEP student enrollment (because they are underrepresented in vocational education and are not being actively recruited).

- While still allowing for locally initiated efforts for LEP vocational students, SEAs should establish a specific state plan for serving LEP students and have the state LEP expert implement the plan with Perkins funds. Linkages with other state agencies should be encouraged so that services can complement one another.

- Policies and practices of local school districts regarding LEP vocational students should be monitored and reviewed by SEAs. If practices that discriminate against LEP students are found, SEAs should work with the district, recommending measures and schedules for remediation and offering technical assistance.

At the College and University Level

- Vocational teacher education department heads should be sure that vocational special needs teacher educators and special needs courses include state-of-the-art information on serving LEP students, instead of focusing only on disabled students. They should also avoid relying on generic vocational special needs textbooks since they focus primarily on the needs of disabled students.

- All teacher preparation programs in colleges and universities should provide information about how to serve LEP students in their regular, required vocational courses. Separate courses should not be required; rather, this information should be infused into already offered courses.

- Colleges and universities should offer students at the master's and doctoral degree levels the opportunity to major or specialize in bilingual vocational education. This should be done by the bilingual, vocational education, and ESL departments working in collaboration. The subject area should be established as a recognized professional field with a body of knowledge and research and a cadre of trained experts.

- ESL teacher training programs at the college and university levels should offer all students a general orientation to and coursework in vocational ESL and should also provide opportunities to specialize in this area.

- Bilingual teacher training programs should also include in their curricula information about bilingual vocational education instead of focusing only on bilingual academic instruction.

- University faculty who are involved with some aspect of vocational education for LEP persons, whether from the perspective of vocational education, bilingual education, ESL, counseling, or administration, should share their experiences through such scholarly activities as professional writing and conference presentations. There is still a dearth of literature related to LEP vocational students and related topics.

At the Local School Level

- More emphasis should be placed on providing inservice training to teachers in school districts serving LEP populations. Special emphasis should be placed on teachers' (both vocational and others) in acquiring the necessary competencies for serving LEP students and the needed skills for collaborating in providing this service.

- Local school inservice should focus on successfully incorporating each component of the BVT model into vocational programs.

- Administrators should provide the necessary coordination and resources to make serving LEP students successful. If necessary, they should appoint a special LEP coordinator, who is properly trained, to assume the coordination responsibilities.

- Special attention should be given to providing vocational ESL instruction at vocational-technical high schools since they must otherwise rely on feeder schools for ESL, which is often an impractical physical arrangement.

- Vocational-technical high schools should take more responsibility for student assessment rather than relying on feeder schools.

- Assessment plans should be appropriately designed for LEP students and should include appropriate assessments of English proficiency, vocational interest and aptitude, and basic skills. All tests except the one for English proficiency should be available in the native languages of the LEP students.

- Assessment should never be used to exclude LEP students from participating in vocational education programs.

- More and better quality recruitment of LEP students into vocational education programs should be undertaken, especially by comprehensive high schools. Guidance counselors should be better apprised of the benefits available through vocational education and should convey this information to LEP students in a manner they can understand.

At the Commercial Publisher Level

- Commercial publishers should become aware of the potentially lucrative market in the United States for publications dealing with service to the large population of LEP residents and citizens. They should consider developing VESL books and marketing existing bilingual vocational materials in this country, not just overseas, to help the market grow as well as make an important contribution to vocational programs serving LEP students.
- Publishers that produce vocational materials in other languages should focus their marketing efforts within the United States, not just overseas.
- Publishers of vocational special needs materials should be sure they have adequate information about LEP students in the materials they are updating or publishing. They should be sure that an expert in vocational education for LEP persons reviews materials before they go to press.

At the Professional Association Level

- Professional associations should encourage more publications and presentations from their members in relation to LEP vocational students. Such associations as the American Vocational Association, Teachers of English to Speakers of Other Languages, the National Association for Bilingual Education, the National Association for Vocational Education Special Needs Personnel, and the National Association of Industrial and Technical Teacher Educators can provide vital leadership, advocacy, and information sharing.
- Professional associations should consider preparing special issues of journals, offering special sessions at conferences and meetings, recruiting interested individuals, soliciting relevant material, and assisting groups of interested people to organize and use the association's resources.

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EDUCATION BEHIND BARS: FOCUS ON VOCATIONAL EDUCATION FOR ADULT INMATES

Ida M. Halasz

Introduction

Nationally, corrections institutions include jails, state and federal prisons, community-based organizations, and juvenile facilities. The vocational education programs within these diverse types of institutions vary from nonexistent to comprehensive programs leading to certification in a trade. For the purposes of this review, the focus is upon state corrections systems and institutions for adults, primarily because they house the majority of inmates.

Some attention is focused on the federal system (adults) to highlight especially innovative programs. In addition, juvenile corrections practices are mentioned to provide an understanding of the system that many adult inmates have experienced. Since there is very little research about and a great deal of variance in the vocational programs that do exist, research about programs in jails and community-based institutions is not discussed.

Overview of Inmates

On an average day in the United States, over 700,000 individuals are confined to crowded corrections institutions that include over 5,000 jails, state and federal prisons, and local juvenile facilities (Jamieson & Flanagan, 1987). The number of inmates has grown dramatically, more than doubling during the past decade for a variety of reasons (Nesbitt, 1986). There is more crime (the baby boom children reached the most crime-prone ages of

18 to 25), more criminals are sentenced to prison (tougher public stance on punishing criminals), and more are sentenced for longer terms (younger criminals commit more violent crimes; more severe sentences for repeat offenders, violent offenders, and certain drug offenders) (Chapman & Zausner, 1985).

But these inmates are not "off the streets" forever. Most--95%--will be released to rejoin society after an average incarceration of 2.5 to 4 years for adults and 6 to 9 months for juveniles. Many, however, are not and have never been prepared to participate as responsible citizens by holding jobs with even minimally acceptable wages. The profile of the typical male or female inmate is young, poor, unskilled, undereducated, and unemployed or underemployed. Most are from broken homes and are dropouts from school and the societal mainstream.

There is a strong inverse correlation between level of education and incarceration rates. Only 40% of inmates as compared to 85% of the U.S. population as a whole have completed high school. Only 1 per 1,000 males ages 20-29 who are college graduates are incarcerated versus 259 per 1,000 males without any formal schooling (Jamieson & Flanagan, 1987). Although research has not conclusively established that lack of education or educational disability leads to crime, data strongly suggest that the lack of basic academic and employability skills is a contributing factor.

Since the early 1970s there has been a growing awareness that inmates have significantly lower educational attainment than the general population. Numerous studies have found that inmates' functional literacy is substantially lower than national norms (Bell et al., 1979; Dell'Apa, 1973; Education Commission of the States, 1976). Most inmates function at the fifth-grade level in reading and spelling and somewhat lower in math. A total of 30% of adult inmates meet the age eligibility criterion for special education services, and 84% of these inmates are considered handicapped/slow learners; 17%, mentally retarded; and 10%, learning disabled. All are categories that correlate highly with functional illiteracy (Devlin, Klingler, Lightsey, Marshall, & Price, 1984). Some estimate that about 60-80% of inmates can be classified as functionally illiterate (Conrad & Cavros, 1981). Based upon recent adult corrections population figures, these percentages translate into over 280,000 illiterate adults currently incarcerated (Rutherford, Nelson, & Wolford, 1984).

Over 40% of inmates were unemployed at the time of arrest and an additional 12% had only part-time employment. The average inmate lived at poverty level before being imprisoned. One-third of inmates have a record of severe alcohol abuse and another one-third have a record of drug abuse (Coffey & Carter, 1986).

Inmates include juveniles from about the age of 9 through the elderly who die of natural causes while incarcerated. Although the majority of adult inmates are white males in their 20s (56%) and 30s (25%), there are a disproportionate number of Black (47% compared to 12% of the U.S. population) and Hispanic inmates. The percentage of women, while small at about 5%, is growing faster than the rate for men. About 57% of the inmates committed violent crimes; about 33% committed property crimes; and 75% were substance abusers.

Limitations to Research in Corrections Vocational Education

The very dearth of relevant data about the programs in various types of corrections institutions supports the recommendation for additional, and in some cases, seminal research about their vocational programs, the governance and financing, the inmate participants, the instruction and instructors, and the outcomes, both within the institution and in the community upon release.

When studying vocational education in corrections, it is necessary also to examine the broader topic of corrections education. There are relatively few studies that isolate vocational education issues from those pertinent to academic education. Academic education programs include basic literacy courses, high school courses, and college courses. Most vocational education courses that are offered through the prison school system are considered secondary-level courses. In other cases vocational education courses are considered postsecondary vocational-technical courses, especially if they are provided by local community colleges or technical schools. It is important to know that there is no nationally accepted standard system for state-operated corrections education or vocational education.

The diversity in vocational education programs among states and even within many states negates opportunities for valid comparative research. Much of the research about vocational education addresses programmatic needs for improvement or program impact on recidivism (rate of return to prison). The research related to recidivism is especially controversial. There are no consistent definitions for recidivism, which, according to many researchers who have delved into the associated problems, is at best a crude measure of educational program success (Wolfe & Sylves, 1981). Unfortunately, due to the many uncontrollable variables that affect both corrections and vocational education research, many research findings related to their success or failure (however it is defined) are statistically weak or can be refuted by other research.

The lack of research proving a conclusive relationship between education and recidivism has not ended the search for relationships between educational programs and postrelease outcomes. Many studies indicate that education and skill training may not be able to overcome other factors, such as ethnicity and intelligence. According to Markley, Flynn, and Bercaw-Dooen (1983), common findings of studies seeking reasons for recidivism indicate the following:

- Youthful inmates recidivate at a higher rate than older inmates. Maturity appears to be a significant factor in reducing antisocial behaviors.
- Race is a factor, with minority youth returning to prison at higher rates than nonminority youth. They also have higher levels of unemployment, higher dropout rates, and lower education achievement levels.
- Supportive family structures can mitigate recidivism. The lack of stable social relationships is positively correlated with recidivism.
- Employment success prior to entering prison is positively correlated with successful reintegration in the outside world. The converse also appears to be true; having no

previous job experience poses a serious obstacle to becoming a stable wage earner upon release.

- Former inmates with lower levels of intelligence and more emotional disturbance (as measured on the Minnesota Multiphasic Personality Inventory--MMPI) are less likely to abandon criminal behavior or succeed at employment.

Some of the factors that seriously impede the validity and reliability of vocational education research are imbedded in the prison environment, including lock downs (all inmates are confined to cells and cannot attend classes, sometimes for weeks or months), disciplinary actions, transfers to other prisons, dropouts, absence, early release, harassment by or lack of cooperation from corrections staff, lack of cooperation from probation and other postrelease agencies, and loss of communication with or updated information about former inmates. Poor record keeping about inmates' participation and progress in courses and support services, along with limitations based on human subjects research and privacy laws, acts as an additional barrier.

Fortunately, not all researchers have been discouraged from collecting data and conducting studies that provide useful information and breakthroughs in thinking about inmates and corrections programs (Halasz & Behm, 1982; Waidley, 1986). For example, a number of studies have documented positive correlations between inmates' participation in vocational education and subsequent employment upon release. Although this type of research may appear futile because of the previously listed associated problems, the public continues to demand proof that education and vocational education can and do make a difference in providing options for inmates upon their release. For this reason, if not because of the numerous other benefits cited by former inmates, corrections educators, and criminal justice officials, it is important to continue to seek "proof" that education and vocational education provide benefits to society that outweigh the perceived and real costs. Therefore, it seems appropriate to continue to study the relationships among education, employment, and recidivism based on the assumption that education leads to employment and employment can lead to successful reintegration into society (Coelho, 1980; Deming, 1983; Gleason, 1978; Thompson, Sviridoff, & McElroy, 1982).

Purposes of Corrections Education Programs

Education, both academic and vocational, is a very small part of the total corrections rationale and budget (about 1%). The most important purposes of the corrections system are custody and security. Keeping inmates imprisoned and away from society, keeping them from harming their custodians, each other, and themselves, and keeping them supplied with basic needs are other critical functions. Depending upon the pervasive philosophy in the state at any given time, corrections can also be considered an opportunity to change inmates through punishing them and/or providing them with a variety of rehabilitative programs and services.

Corrections theories and philosophies have ranged from "throw away the key" (isolation/punishment) to "save these victims of society" (rehabilitation). In the 1960s and early 1970s, the rehabilitation rationale for educational programs was based on studies that linked illiteracy and disadvantagement to delinquent and criminal behavior. The pendulum started swinging in the other direction when researchers such as Martinson (1974) concluded that "nothing works"; that recidivism was not affected by education behind bars. Martinson's analysis cited four potential explanations for the negative results of his research between 1948 and 1965: (1) education programs were not relevant to life outside prison; (2) most vocational education programs use obsolete equipment and techniques; (3) education programs cannot reverse the negative impact of incarceration; and (4) educational attainment was not pertinent to the reasons for leading a criminal life-style.

More recent studies, and re-analysis of former studies, helped swing the pendulum to its current middle-of-the-road position. There are many proponents who espouse education as one of several options that should be provided for inmates if they are to have any chance to change. Although statistics vary widely, various studies show that up to 70% of inmates will return to prison within the first year after release (Long, 1982). A 1984 study by Wallerstedt cited the national average recidivism rate as 35%. Recidivism rates vary greatly, however, from state to state and for prison to prison within states. Philosophically, it seems reasonable to provide corrections programs, including much-needed education to inmates who have a critical need for both basic education and for job-related skills.

This "reasonable" philosophy is more or less the current rationale for providing education in most institutions. One of its best known proponents is former Chief Justice Warren E. Burger (1981) who argued that education programs, especially those leading to employment, must be made a priority in corrections. He is noted for his statement that "the key to every good system I have ever seen is work, education, and training, and it is on this score that so many of our prisons in the country have been, and are today, an appalling failure for a civilized people. The number of inmates who enter and leave our prisons as functional illiterates, lacking any marketable skills, is staggering. We must change that" (Burger, 1984).

In 1986 Governor Baliles of Virginia, noting that 35% of the state's 10,800 inmates were functionally illiterate, proposed that eligibility for parole be tied to attaining literacy (Rutherford & Nelson, 1986). Likewise, the federal prison system's policy has been that all inmates with less than a sixth-grade (eighth-grade in some institutions since 1984) education must enroll in an adult basic education program for 90 days. Only those inmates who complete this program are eligible for vocational training programs and work assignments that pay above the entry-level wage (MESA Corporation, 1985).

Education is one of six programs and services offered in one form or another by most corrections institutions. These programs and services, including mental health (crisis intervention, counseling), medical treatment, religion (all denominations), recreation (movies, physical fitness, sporting events, arts, crafts, theater, garden plots), and self-help (Seventh Step, Alcoholics Anonymous, Dale Carnegie courses), offer inmates opportunities to change their own behavior but do not guarantee that they will become law-biding citizens upon release (Snarr & Wolford, 1985).

Of these programs and services, academic and vocational education programs have the longest tradition and are considered by many to have the most potential for positive results. Historically, education has played varying supportive roles in corrections. Education of inmates started virtually at the same time that the first prison in the United States, the Walnut Street Jail, opened in Philadelphia in about 1790 (Wolford, 1986). The success of any educational program depends on its ability to work within the context of the corrections system. Since corrections management does not always recognize its importance, the political and financial support needed to provide adequate vocational education programs for all who could benefit simply does not exist.

Prevalence of Education Programs

Although there still is no cohesive, universally accepted philosophy regarding the rationale and purpose of corrections eduction, about 90% of the institutions have educational programs. But the existence of educational programs does not guarantee that all who would benefit or desire education can participate. Despite these staggering levels of need for educational services, fewer than 12% of the total adult prison population has access to education programs (Correctional Education Policy Statement, 1984). Approximately 30% of inmates are enrolled in some type of program, but this percentage fluctuates greatly, depending upon the type of institution, the pervading philosophy about education, the availability of facilities for programs, and of course funds for educational programs. It is estimated that only 5% of the nation's inmates participate in vocational education, whereas as many as 50% of inmates could probably benefit (Shannon, 1984).

Although there has been extensive litigation concerning corrections education during the past 15 years, adult inmates do not have federally protected rights to rehabilitation, education, and vocational training (Spencer v. Snell, 1986). Education is provided at the discretion of corrections officials in each state. Despite the absence of inmates' per se constitutional right to education, nearly every state has laws that (1) create an absolute right to correctional education (e.g., Alabama), (2) authorize but do not mandate it (e.g., California), or (3) establish public commitment favoring unlimited access to all levels of instruction (e.g., Illinois).

Many states (e.g., Ohio and Virginia) and the Federal Bureau of Prisons have policies requiring inmates who function below minimum grade equivalencies to attend GED classes as their primary job assignment (Moke, 1986). Courts in some states (e.g., Arkansas) have also ruled in favor of compulsory education for illiterate inmates (Rutherford v. Hutto, 1974).

Juveniles, on the other hand, do have legal rights to education while incarcerated. The parens patriae doctrine requires that the welfare of the child is the responsibility of the corrections institution (Schwitzgebel, 1979), and significant number of inmates are under 21 years old. The typical incarcerated juvenile has failed in school, has been abused at home, and lacks the maturity and skills to succeed in life. Juveniles often see themselves as losers with little hope for the future. Indeed, a juvenile criminal record often leads to a career of crime. Prior criminal behavior is the most accurate predictor of future criminal acts. A 30-year longitudinal study of 9,945 males in Philadelphia indicated that the probability of an offender recidivating increases with each prior arrest (Wolfgang, Figlion, & Thorsten, 1972).

Vocational Education Behind Bars

Vocational education, provided in about 90% of the U.S. corrections institutions to about 5% of the adult inmate population, is defined by the National Advisory Council on Vocational Education (Day & McCane, 1982) as:

> instruction offered within correctional systems to enable offenders to be employment ready upon their return to free society. It involves the development of basic skills, specific occupational training, and an array of job readiness training, including the development of motivation, good work habits, and survival skills.

Nationally, vocational education is provided in at least 150 occupational fields, including some of the most prevalent, such as masonry, welding, carpentry, data processing, office equipment repair, food service, cosmetology, and sewing. Vocational education is often provided to train inmates to be dishwashers or do other jobs that support the institution but have little viability for adequate employment upon release. Few programs provide truly relevant training for skill development in current occupations.

In typical programs, job-related skills are developed through a combination of on-the-job training and classroom activities within the institution. Although some programs lead to the acquisition of trade or technical certification, others are merely ways to train inmates for jobs within the institution (Bell, 1979). One example is the tobacco training program at the Menard Penitentiary in Chester, Illinois. Inmates develop a variety of skills to manufacture tobacco products for sale only to other inmates within the institution. Their skills in this particular trade have minimal transferability to the outside community (Downing, Stitt, & Murray, 1987).

Several follow-up studies of inmates who train for viable occupations in vocational education programs indicate they have a lower recidivism rate than inmates from the same prisons who do not complete programs. Arkansas, a state that has conducted follow-up studies to determine whether or not to continue such programs, found that only 7.5% of inmates with a GED and vocational education recidivated compared to the average rate of 30.8% recidivism for inmates without vocational education. A simple cost-effectiveness analysis indicates that the average cost of $1,710 to provide inmates with vocational education was far less than the average cost of $8,577 to keep them imprisoned for a year (Hassell, 1988). A special vocational education program for first-time, nonviolent 18- to 22-year-old inmates in Oklahoma indicated that only 16% returned to prison. In contrast, approximately 55% of those trained in other vocational programs recidivate. This special program includes many of the elements considered necessary for effective vocational education programs (Dollar, 1988).

Effective vocational education programs include (1) the evaluation of vocational abilities and interests, (2) individualized programs, and (3) training of sufficient duration, depth, and relevance that inmates can market their skills upon release. But even the best programs are not adequate if ex-offenders do not know how to acquire and keep jobs. Therefore, the better vocational education programs also focus on employability and life skills (Platt, 1986; Snarr and Wolford, 1985). In a 1984 study, Downing found that employers in Illinois were interested in hiring ex-offenders, but most recommended they have training in career readiness prior to release. Results of another study (Wilson, Kinihan, & Goolhasin, 1981) showed that ex-offenders who had participated in job readiness programs found jobs more quickly and maintained them longer than those who had not participated in such programs.

Typical job readiness programs include some aspects of resume writing, interviewing skills, job acquisition skills, and work preparedness. Unfortunately, most of these programs are too short and too superficial really to prepare inmates for coping with the outside community. Many inmates entered prison without ever learning the basic cultural and economic functions required for individual survival as noncriminals. Being aware of these survival skills and knowing how to implement them are both necessary for ex-offenders to integrate into the community as productive citizens. These survival skills include the following, as suggested by Downing, Stitt, & Murray (1987):

- Social skills--behavior that is within the norms of society, such as cooperation with others and contributing as a productive worker.
- Job acquisition skills--the ability to find productive employment at a livable wage. Skills include writing a resume, interviewing with an employer, scanning the help-wanted ads, filling out job applications, writing a cover letter, and understanding work requirements.
- Work performance skills--the ability to perform specific tasks on the job, to relate to co-workers, and to cooperate with management. Also includes punctuality, reliable attendance, proper attire on the job, understanding of company policies, adjustment to the work environment, positive discipline, and ethics in the workplace.
- Basic survival skills--the skills needed for everyday life, such as managing money (counting money, banking, balancing a checkbook), scheduling one's own time, filing tax returns, buying insurance, using public transportation, shopping, selecting housing, and accessing social service agencies.

Very few vocational education or job readiness programs attempt to integrate entrepreneurial skills that would provide inmates with opportunities for self-employment upon release. Such programs would not only train inmates in the occupational skills, they would also integrate knowledge of the day-to-day operation of an actual business into the curriculum. Entrepreneurial training would include business management, survival skills, marketing, bookkeeping, sales, transportation, and personnel management. A criminal record is often a severe handicap for employment. With entrepreneurial skills, ex-offenders could have the option of starting their own small business rather than depending upon someone to hire them. However, there appear to be many reasons that prisons do not offer entrepreneurship training, including the following (Hering, 1985):

- Money to fund entrepreneurship training is difficult to acquire since many governing bodies misunderstand its purpose or simply are unwilling to fund it.
- State laws often prohibit vocational programs from becoming involved in production-oriented efforts, especially those selling products to the community that might compete with business and industry, which has higher overhead and wages.
- Administrators and instructors are reluctant to change current programs and may fear that production goals would outweigh corrections and/or educational goals.
- To succeed, entrepreneurship training would require updated, relevant curriculum (preferably competency-based) that does not exist in many current vocational education programs.

Funding of Corrections Education

Burger (1984) states: "It costs more to keep one inmate in a prison than it would to send that inmate, if her or she were otherwise qualified, to the most expensive university or graduate school in America!" Although the average cost was $15,000 in 1984, some states spend more than $30,000 per inmate annually. The average share of a corrections facility's budget for education is about 1%. Some additional monies are provided to corrections education programs through federal legislation. The Carl D. Perkins Vocational Education Act (PL 98-524) specifies that

> One percent (of the basic State grants for vocational education) shall be made available for criminal offenders who are in correctional institutions.

Although only 1% of the basic grants is specified for inmates, most of the remaining 56% set-aside is also applicable. Most inmates fall into one or more of the other categories disadvantaged, adults in need of training or retraining, handicapped, single parents, and sex equity. Another source of funds is the Education for All Handicapped Children Act (PL 94-142, 1975), which is applicable to juveniles (up to the age of 21) incarcerated in adult prisons.

State-Level Administration of Corrections Education

The majority of inmates are housed in state institutions for adults and juveniles. A national survey (Norton & Simms, 1988) found that corrections education programs are administered through 82 state departments, including 32 for adults only, 31 for juveniles only, and 19 for both. The majority are located in departments of corrections (52%); others are in youth services (20%), education (11%), corrections and education (5%), youth services and education (2%); and the remaining (10%) are in health, human, or social services. Regardless of the type of department, most (94%) have fewer than 6 central office persons involved in corrections education. In 10 states there is no central office administrative position exclusively devoted to corrections education (Coffey, 1986).

In most states, departments of corrections dictate policy for the appropriation of operating funds and resources for educational programs. Some state departments of corrections may not have an explicit or coherent agenda for corrections education goals, electives, or activities. In most cases, educational programs do not receive a line item budget. Instead, their budget is part of a general allocation provided for a particular institution's operation (Simms, Farley, & Littlefield, 1986). It is not difficult to understand why, in most states, corrections education receives very little attention, funding, or quality control. The majority of operating funds are allocated for security and other basic corrections needs. There are some exceptions, as in Minnesota and Wisconsin, which have some of the best programs and highest percentages of inmates enrolled (Rice, Poe, Hawes, & Norden, 1980). Another exception is Alabama's Ingram School System (MESA Corporation, 1985).

There has been little research about the comparative merits of different types of administrative systems for corrections education. Several states have tried to solve some of their problems by establishing statewide corrections school systems. Ten states currently have school systems: Arkansas, Connecticut, Florida, Illinois, Maryland, Ohio, South Carolina, Tennessee, Texas, and Virginia. Coffey (1986) explained that proponents claim several advantages of corrections school districts but only one has been substantiated through research. The chief advantage appears to be increased funding because of entitlement to state and federal pass-through monies on an equal basis with other school systems (Carlson, 1981; Pope, 1982). One example of increased funding has been Texas' Windham School District, which has 39 staff members in its central office and one of the highest percentages of inmate enrollment in the nation (Coffey, 1986; Norton & Simms, 1988).

Problems in Corrections Education

There are many deep-rooted problems facing corrections education, and most have not changed much in the last 50 years. These include limited funding, inadequate facilities, and organizational disincentives to participate (Conrad & Cavros, 1981, Horvath, 1982). For example, inmates are frequently paid less for school attendance and may be denied single cells, honor status, and other prerequisites of institutional life if they enroll or remain in educational programs. In some corrections systems (e.g., Texas Department of Corrections) inmates can only participate in education programs during their own time because they are required to have institutional jobs in order to receive the prescribed level of state subsistence (Snarr & Wolford, 1985). Other frequently cited problems include limited support services, such as counseling, assessment, libraries, and educational specialists. There are also a limited number of adult-normed assessment and evaluation instruments available for use in corrections education programs (Wolford, 1986).

At four national hearings of the National Advisory Council on Vocational Education (1981), more than 90 corrections educators defined the following key problems associated with providing corrections education:

- Lack of funding and difficult access to funding
- Low priority within state corrections
- Isolation from and lack of access to community resources, such as colleges, universities, and the private sector
- Inadequately trained and certified staff
- Lack of holistic, systemwide, and comprehensive programs
- Inadequate number of programs and program slots
- Inadequate and outmoded equipment and materials
- Inadequate space
- Inadequate coordination among academic education, vocational training, institutional maintenance, and prison industry

Female Inmates and Equity Litigation

National attention has been focused on the needs of female inmates because their number has increased by 158% in the last 10 years and because of the numerous lawsuits against states. Over half (27 by 1983) of the states have been sued to provide women with services equal to those provided to men (Nesbitt, 1986). Vocational education programs for women have traditionally been oriented primarily to traditional service occupations, such as sewing, food service, housekeeping, and nurses aides (Neto, 1981).

Women historically have not been viewed as needing employability skills upon release from prison, but statistics belie the notion that they will be supported by others. Approximately 75% of all female inmates will be responsible for supporting themselves and their dependent children. Yet, 60% have not completed high school and the majority lack skills to attain sufficient employment that can support them and their children. Prior to incarceration, over half were on welfare (Ryan, 1984).

Equal vocational education for female inmates has emerged as a major legal issue due to the 14th Amendment Equal Protection Clause and Title IX of the 1972 Education Amendments to the 1964 Civil Rights Act. By mid-1983, 14 states were charged with providing inadequate educational programs, vocational programs, or both for female inmates. The central issue was the alleged disparity in the type and extent of vocational opportunities available to male versus female inmates in the same state (Moke, 1986; Norton, Ciccone, & Littlefield, 1987). Corrections institutions have argued that it is not cost-effective to provide many vocational programs, especially nontraditional programs such as auto mechanics, because there are relatively few women interested in attaining such skills.

In two precedent-setting cases, officials in Michigan (Glover v. Johnson, 1979) and Kentucky (Canterino v. Wilson, 1982) were ordered to upgrade vocational programs for female inmates. The courts held that although segregation of the sexes was necessary for security reasons, women were nonetheless entitled to access to vocational courses equal to those offered men, regardless of the cost. The courts further ruled that the states had to provide women with access to vocational courses for nontraditional occupations (Moke, 1986; Norton, Ciccone, & Littlefield, 1987). As a result of court decisions in some states and fear of potential law suits in other states, many more vocational programs (often based on realistic data, accessed needs, and nontraditional occupations) are now available in institutions housing females.

Factors Necessary for Effective Corrections Education

Some states (e.g., Ohio) have initiated corrections programs that combine vocational education, training for related jobs in the institution, and working in an institution job such as furniture making or upholstery. One of the purposes of these programs, often called "T.I.E." for trades, industry, and education, is to make the corrections experience less fragmented and potentially more useful for inmates in finding jobs or starting their own businesses upon release.

Coffey (1986), a former director of the corrections program of the U.S. Department of Education and executive director of the Corrections Education Association, believes that the following are crucial factors for providing effective corrections education:

- The state operates a centralized, systemic educational administration, whether or not it is a school district, that is responsible for (a) preparing an annual budget; (b) annual and long-range planning; (c) applying for grants and other monies; (d) developing unified assessment, curricula, and evaluation practices; (e) ensuring adequate space, equipment, technology, and materials for instruction; (f) implementing pre- and inservice training for staff; (g) developing policies and procedures for corrections education; and (h) developing a system of accountability and quality control.
- A fully credentialled educational administrator is in charge.
- There is a fully certified instructional staff.
- There is compliance with state and federal law and adherence to applicable national standards.

- A school board/advisory committee is convened exclusively for corrections education in the state.

Summary

A quotation from Sherman Day (1987) concisely sums up the problems of education in the corrections setting in a manner that can be applied to vocational education as well. He says that

> corrections is a complicated business. Even at best, corrections institutions cannot succeed where the rest of the society has failed. We cannot take offenders and overcome a lifetime of failure. Training and education alone cannot be expected to offset the effects of broken families, the decline in religious belief and training, the loss of authority in our schools, and the general slackening of self-discipline in our increasingly urban and compartmentalized society. However, we have far to go in improving fundamental problems associated with corrections. It is my contention that increased emphasis on the training and education of staff, and better coordination of education and training with work programs will greatly enhance our prison system.

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INDIVIDUALS WITH DISABILITIES
AND VOCATIONAL EDUCATION

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All educators today are required by law to provide programming and services to special populations, which includes individuals with disabilities. For this reason, it makes sense to develop an understanding of the group to be served. The 1984 Carl D. Perkins Vocational Education Act (PL 98-524)--a key piece of legislation--gives the following useful definition of handicapped:

> The term handicapped--means persons who are mentally retarded, hard of hearing, deaf, speech or language impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, or other health impaired persons, or persons with specific learning disabilities who by reason thereof require special education and related services, and who because of their handicapping condition, cannot succeed in the regular vocational education program without special education assistance or who require a modified vocational education program. (Sarkees & Scott, 1985, p. 11)

Although the legislation and current practitioners still use the term handicapped, many educators today consider this terminology demeaning since it is a word that originated from the concept of cap in hand, referring to one who must beg for a living. It is recommended that the terms persons with disabilities, youth with disabilities, adults with disabilities, and so forth be used in schools and other settings in order to afford dignity to such individuals. However, because much of the literature uses the term handicapped, it will be used occasionally in this chapter.

What Are the Laws?

An important aspect of the literature with which educators should be familiar is the federal and state legislation clarifying the requirements for vocational education provided to persons with disabilities. These acts are meant to stipulate federal leadership in vocational education, which is accomplished through expenditure of federal funds to support achievement of certain goals.

The Carl D. Perkins Vocational Education Act of 1984 (PL 98-524) places emphasis on two themes: (1) making vocational education programs accessible to all persons, including "handicapped" individuals, and (2) improving the quality of vocational education programs to improve the marketable skills of the nation's workforce in order to improve productivity and economic growth (Sarkees & Scott, 1985).

The act clearly mandates an appropriate vocational education program for all persons. It specifies that vocational education programs must be based on an individual's interests, abilities, and special needs, and that counseling must be provided to facilitate the school-to-work transition.

Some specific requirements mandated by the act that affect the handicapped either directly or indirectly are as follows:

- o Access
  - -- Equal access to recruitment, enrollment, participation, and placement in vocational education
  - -- Equal access to a full range of vocational education programs, cooperative education, and apprenticeship programs
  - -- Placement in the least restrictive environment

- Supplemental or Special Services
  - Assessments for determining interests, abilities, special needs, and learning style required for students with respect to successful completion of the vocational education program
  - Guidance, counseling, and career development activities provided by professionally trained counselors
  - Counseling services designed to facilitate the transition from school to post-school employment and career opportunities
  - Adaptation of curriculum, instruction, equipment, and facilities with respect to successful completion of the vocational education program
  - Notification to the student and parents about opportunities and options available to them by the time the student is in the 9th grade

- Use of Funds
  - From the federal allotment each year under this act, 10% of funds shall be used for handicapped
  - The nonfederal share of costs from vocational education for the handicapped shall come equitably from state and local sources

- IEP (Individualized Education Program)
  - Vocational education will be included as one component of each handicapped student's IEP

- Governance
  - Planning at the state level will include assessment of special needs of target populations (of which the handicapped is one)
  - The governor or state board of education must appoint to the state council for vocational education a member knowledgeable about special populations and special education
  - Comprehensive information on handicapped secondary-level students in vocational education will be collected by the Vocational Education Data System

The Education of the Handicapped Act of 1973 (PL 93-380) established the fundamental rights of disabled children to a free, appropriate public education, which was revised by the 1975 Education for All Handicapped Children Act (PL 94-142) to read "a free, appropriate public education established as a national policy." Amendments to the 1973 act were passed in 1983 (PL 98-199 and PL 99-457) that addressed the right to quality education and transition services for the disabled, with emphasis on special education.

According to Section 601(c) of the Education of the Handicapped Act, the purpose of the act is as follows:

- To assure that all children with handicaps have available to them a free and appropriate public education
- To assure that the rights of children with handicaps and their parents are protected
- To assist states and localities to provide for the education of all children with handicaps
- To assess and assure the effectiveness of efforts to educate children with handicaps (U.S. Department of Education, 1988)

Of special interest to vocational educators are the guidelines in this legislation regarding the nature of the IEP for each student. The law states that the goal of each IEP should ultimately be the development of skills that enable students with disabilities to adjust to the community and obtain employment. Through the IEP, the parents, the student, and school and agency personnel can work cooperatively to develop the best transition services for the student. More specifically, the law and its amendments implement the following initiatives:

- Improvement of special education programs at the secondary level
- Improvement of job training and placement services for the disabled
- A planning process for providing needed services following secondary education
- Follow-up studies of school leavers
- Improvement of collaboration with vocational education and adult support services
- Creation of a "transition authority"

The creation of this last item--the transition authority--is meant to vest transition from school to work in a national authority and maintains that the outcome of education and transition is sustained employment.

The Vocational Rehabilitation Act of 1973 (PL 93-112) and its amendments (PL 93-568) passed the same year established mandatory civil rights statutes for disabled individuals and set forth guidelines regarding discrimination against individuals in programs receiving federal funds. This law guarantees the right to a free and appropriate education to all individuals with disabilities.

The amendments further target youth, in addition to adults, as the recipients of services that lead to employment. They reinforce this renewed focus on serving youth in three ways:

- By stimulating demonstration projects targeting employment preparation and transition for youth
- By providing guidelines for research on youth who require support services when entering the work force
- By designating youth as well as adults as the primary recipients of vocational rehabilitation services

Overall, this act and its amendments set forth specific requirements for secondary and adult education programs, postsecondary education programs, and employers regarding their obligations to individuals with disabilities. The means for filing a complaint of discrimination with the Office of Civil Rights is also provided.

The Job Training Partnership Act (JTPA) of 1982 (PL 97-300) and its amendments of 1986 (PL 99-496) was originally passed to replace the Comprehensive Employment and Training Act (CETA) and to form partnerships between the public and private sectors. Implemented in October 1983 as a U.S. Department of Labor program, it established job training and placement services for youth and adults who are economically disadvantaged or facing other serious barriers to employment. Individuals with disabilities were identified as eligible participants in JTPA programs, with approximately 10% of funds spent on them annually (Tindall & Hedberg, 1986).

Private Industry Councils (PICs) coordinate the flow of dollars to provide appropriate training and employment services. Many PICs subcontract with outside educational and community-based agencies to provide these services. JTPA programs and vocational education programs are required to cooperate and avoid duplication of services.

One specific area of interest is assessment. The amendments specify the requirement that appropriate assessment of youth take place prior to training. This is particularly important because, as will be seen later, appropriate assessment in all training programs is a desired but yet-to-be-attained goal.

State Legislation

In addition to these federal laws, many states have their own state laws that mandate transition plans and services for youth and adults with disabilities. For example, California, New York, Massachusetts, Washington, D.C., and Wisconsin have all passed such legislation.

Given the legislative emphasis on the school-to-work transition, it appears clear that school and agency personnel are going to continue working together. They have as their goal the promotion of maximum potential in integrated settings for persons with disabilities.

Description of Group

Enrollment

According to data from the U.S. Department of Education (1988), there were 4.4 million young people who met the definition of handicapped being served in our public schools as of school year 1986-87. A full decade ago during school year 1976-77, this number was 3.7 million disabled young people. Service to this population is clearly on the rise.

In terms of service through vocational education, other data show that of students with disabilities in grades 9-12, 40% took part in vocational education during school years 1982-83. This is a marked increase when compared to the 20% of disabled students in grades 9-12 who took part in vocational education during school year 1976-77 (Conaway, 1987). In other words, service by vocational education to disabled young people has doubled in a period of 6 years.

Further, of the students with disabilities enrolled in vocational education and receiving additional services, 64% were in mainstream programs where they received the same occupational preparation as other students. Another 35% were in separate specialized programs.

However, pride in improvement must be balanced with recognition of the work still to be done.

Unemployment and Its Cost

An examination of further statistics warns us that a challenge still exists for educators. Every year, approximately 300,000 individuals with disabilities graduate from or age out of the public school system (Brolin & Elliott, 1984). These individuals have limited success in making the transition to productive adult life.

The unemployment rate of adults (those over 21) with disabilities is between 50% and 80% (U.S. Commission on Civil Rights, 1983). A Harris Survey (1987, cited in Tindall, 1988) showed that two-thirds of disabled people between the ages of 16 and 64 are not working. Bowe (1980) states that 85% of those disabled individuals who are employed earn less than $7,000 per year, and 52% earned less than $2,000 per year.

For graduates of special education programs, the employment rates vary from 38% for students with severe disabilities (which means that 62% are unemployed) to 68% for students with learning or behavioral disabilities (which means 32% are unemployed). Of those employed, the jobs tend to be low status and low paying, and most were obtained through family and friends (Edgar & Levine, 1988).

Despite the successes and the concentrated efforts through federal and state legislation, funding, and local efforts, American society is still carrying a heavy economic burden in that these individuals are tax users rather than tax payers. The dollar cost of dependency versus the cost of independence can be examined as proof.

The mean national per-pupil expenditure for special education services is approximately $8,375 annually (Singer & Raphael, 1988). Given that the average student with disabilities receives these services for 14 years, from kindergarten through age 18, the total cost of providing special education to one individual is over $116,250.

After this expenditure, the costs often continue. For those who do not work after leaving school, the average dependency cost per person totals approximately $12,368 annually (per a personal telephone call with the Ohio Governor's Office of Advocacy in 1986). And the cost of such dependence-oriented expenses have been growing faster than the annual inflation rate.

If we examine Medicare, for instance (which is a dependence-oriented expense to our nation), in 1966 Medicare costs amounted to $3.4 billion. By 1982, the Medicare outlay had increased to in excess of $50 billion. This means the dependence-oriented outlay has increased at an annual rate of 17.7%. We can infer that the expenses of providing support services to disabled individuals (such as adult day programs and rehabilitation) are increasing annually in a similar manner.

Our attitude as a nation toward the disabled is oriented more toward dependence than independence. Parents of disabled children are conditioned by societal attitudes to believe their children will never hold jobs. Parents, teachers, and employers tend to have low expectations for these persons (Lagomarcino, 1986).

Yet it has been found that anyone who is reasonably alert and has some movement, even if only in one limb, can be trained to work in a competitive employment setting (Bowe, 1980, p. 5). Research demonstrates that even persons with severe handicaps can learn complex assembly tasks, community mobility skills, and vocationally reevant social skills (Lagomarcino, 1986, p. 66). Further, in a survey of over 300 employers (Minskoff, Sautter, Hoffman, & Hawks, 1987, cited in Tindall, 1988) 72% of employers indicated a willingness to make special allowances for disabled workers by providing more support and encouragement, extra time for training, more detailed directions, and jobs more suited to the person's abilities. And for those employers who did hire disabled workers and provided accommodation, a 1982 study by Berkeley Planning Associates (cited in Tindall, 1988) concluded that accommodation is "no big deal." Approximately 30% of the firms surveyed had costs of less than $500, and 51% had no costs at all associated with the accommodation.

In comparing costs, supported competitive employment is much more cost-efficient than other support options. One study showed that over a period of 10 years, supported competitive employment is much more cost-effective than sheltered workshops and adult day programs. Start-up costs for competitive employment are higher initially, but they level off and continue to grow at a slower rate after the first 42 weeks. Table 1 illustrates this concept.

Table 1
Projected Costs Comparison

Cumulative Expense after:	Supported Competitive Employment	Sheltered Workshops	Adult Day Programs
1 year	$ 3,182	$ 3,744	$ 5,916
2 years	4,064	7,675	12,128
4 years	5,963	16,137	25,499
6 years	8,056	25,466	40,240
8 years	10,363	35,752	56,493
10 years	12,907	47,092	74,441

Clearly, if our public schools could provide the needed education and training to students with disabilities and then facilitate their school-to-work transition, our nation would experience the cost savings over the cost of more dependent services and assistance.

School Completers and Dropouts

Not only do many students with disabilities leave public school without the requisite skills and assistance to be placed and be successful in jobs, but a considerable number also exit from the school system before necessary. In other words, they "drop out" before receiving a diploma or certificate.

For instance, U.S. Department of Education (1988) statistics for school year 1985-86, show that 213,623 youth with disabilities between the ages of 16 and 21 exited from school. Of these, 43% graduated with a diploma and 17% received a certificate of completion, for a total of 60% of the population. (These certificates are exit documents given by states whose policies require giving different completion requirements for special education students who do not meet regular graduation requirements.)

The U.S. Department of Education further shows that another 2% of the total leaving school "age out" of the system. This means they reach the age at which they are required to leave the public school system even though they have not yet earned a diploma or certificate. The age varies from state to state. For instance, 23 states provide services through the public school system for individuals with disabilities through age 20. Another 19 states provide services through age 21.

Another 26% of youth with disabilities (or 56,156 individuals) between the ages of 16 and 21 drop out of high school before completing their education. This comes to an average of 312 students a day. The remaining 12% fall in the category of "other." It can be assumed that a large portion of this other group are students who no longer attend school and have not graduated or reached the maximum age. With this in mind, the dropout figure can be estimated to run higher than 26%. Statistics for school year 1985-86 show that the largest number of dropouts--47%--are learning disabled.

The consequences of dropping out of school for handicapped youth would be similar to those for nonhandicapped youth, but would probably be more pronounced. They would have poor employment potential, fewer opportunities for further education, and lower earnings for those employed (U.S. Department of Education, 1988).

Furthermore, regardless of whether disabled youth finish school or not, the numbers cited earlier indicate that neither group is very successful at becoming employed.

Anticipated Needs

For school age youth. For the school year 1985-86, the 50 states, the American territories (e.g., Guam, Virgin Islands), and the insular areas (e.g., Bureau of Indian Affairs) reported that they were short of various school staff needed to serve youth with disabilities other than special education teachers. In the category of *vocational teachers*, they reported needing 6% more than were currently employed. In terms of counselors needed, the states indicated a need for 4% more than were employed at the time. Approximately 10% more *work-study coordinators* were reported by the states as needed.

These statistics suggest that the states are already having difficulty providing services due to staffing shortages. With the anticipated growth in the population to be served, these shortages may very well increase.

The states, territories, and insular areas were also asked which educational areas needed improvement most. Improvement was defined as meaning (1) not currently available for handicapped children and youth, (2) in short supply for specific populations and/or age groups, and (3) in a stage where considerable development is necessary for the service to have maximum effectiveness or be delivered efficiently (U.S. Department of Education, 1988, p. D-1).

In answer to this question for school year 1985-86, the states, territories, and insular areas cited vocational education most frequently as the service needing improvement. Specifically, 40 of the 56 states, territories, and insular areas indicated this need.

For nonschool-age adults. For individuals who have left the school system, a variety of services are projected as needed. According to data from 50 states, territories, and insular areas (U.S. Department of Education, 1988), approximately 523,881 individual services would be needed in school year 1986-87, as compared to 62,423 individual services needed in school year 1985-86.

The largest number of services needed are vocational training services--amounting to approximately 16% of all services. Counseling/guidance and vocational placement services constitute 14% each of all services required.

It is an unfortunate fact that once disabled youth exit from public secondary schools and find themselves unable to navigate the labor market, rehabilitation agencies--the group that would then assume responsibility (along with JTPA) for providing these services--do not have the resources to assist all those requiring help. In fact, statistics show that rehabilitation programs have funds to serve only 1 out of every 11 persons who qualify fully for such services.

Summary

It seems that despite considerable progress in solving their problems, individuals with disabilities remain underserved in terms of acquiring vocational skills while they are still in the secondary school system. Cobb and Phelps (1983), in an analysis of 53 randomly chosen Individualized Education Programs (IEPs) of secondary special education students, showed that less than half contained at least one vocationally oriented annual goal. Limited participation by vocational educators in the construction of these IEPs was indicated.

It is imperative that secondary schools include appropriate vocational training for these youth before they exit from secondary school, particularly since the goal of vocational training, as mandated by federal legislation, is job placement. According to typical state mandates, if a vocational program cannot place at least 60% of its graduates, states can deny or revoke funding allocations to those schools.

Furthermore, research shows that youth who receive adequate training and experience do have better success in the labor market. For instance, in examining the employment success and employment levels of both graduates and early terminators from high school work/study programs for educable mentally handicapped young adults (16 to 21 years old), Halpern (1978) found that these individuals who finished their programs had substantially higher employment levels than did similar persons not completing or only partially served by their programs (as cited in Harnisch et al., 1986). Hasazi, Gordon, and Roe (1985, as cited in Harnisch et al., 1986) found that employment outcomes were related to secondary vocational and training experiences.

By providing vocational training during secondary school, the problems of disabled individuals needing further training after school is alleviated. At the same time, the employment problem is minimized. If these young people need some type of service after leaving school (since they are as vulnerable as anyone else to such problems as getting fired, layoffs, and so forth), then at least their need is not for training. That is already accomplished.

Vocational Assessment

By law, handicapped students are entitled to the same rights as nonhandicapped students regarding their participation in vocational and career development programs. This means schools are required to place students with disabilities in the least restrictive environment possible where they may gain the skills necessary to function once they leave the school environment and enter the community (Levinson, 1984). The 1984 Carl Perkins Vocational Education Act indicates that handicapped students must be assessed in order to place them in appropriate programs and ensure that they have adequate support to be successful there.

Vocational Assessment is defined by Dahl (1980, as cited in Peterson, 1986) as

> . . . a comprehensive process conducted over a period of time, involving a multi-disciplinary team . . . with the purpose of identifying individual characteristics, education, training, and placement needs, which provides educators the basis for planning an individual's program, and which provides the individual with insight into his or her vocational potential. (p. 3)

The assessment process sounds complex simply by its definition, and as with most complex subject areas that require expertise to implement, controversies arise among the experts. Such is the case in the vocational assessment arena. Two basic schools of thought can be identified and expressed in simplified terms.

One school of thought, which represents the traditional approach to vocational assessment as used by rehabilitation agencies (where vocational assessment has been a responsibility for years) advocates the use of a vocational evaluation center to conduct a formal assessment. This is a strict evaluation and predictive procedure (Stodden & Ianacone, 1986, p. 10) that involves administration of specific tests, such as psychometric and aptitude tests and work sampling. Such tests and samples can be valuable if interpreted in a relevant manner and used in deciding to conduct career explorations, in developing IEPs, or in making vocational placement decisions (Neubert, 1986).

The other school of thought (Ianacone & LeConte, 1986; Peterson, Brown, & LeConte, 1987; Stodden & Ianacone, 1986) advocates an informal, curriculum-based assessment process that is conducted in the school classroom and is teacher coordinated. This relatively recent approach to assessment became of interest with passage of the Perkins Act of 1984 that required assessment of students with handicaps (Albright, Cobb, Sarkees, & Kingsbury, in press). Teachers conduct interest surveys with the students and lead them in career awareness and career exploration activities. Based on a student's interests and how well he or she does in academics, a recommendation is made for program placement--all based on the expressed interests of the student.

This curriculum-based, informal approach, which allows referral to formal assessment as needed, is generally to be recommended over use of the formal approach alone, specifically because various difficulties often arise that prevent formal vocational assessment from providing assistance in instruction or student development. At its worst, formal assessment can actually become an impediment, taking up valuable student and staff time and resources (Peterson, 1985b).

Because assessment is in many cases a new responsibility for the school system, many of them have attempted to implement vocational evaluation models straight from the rehabilitation field. Because of the vast contextual difference between the two service settings, these models are not as applicable in the school setting (Neubert, 1986). Difficulties arise.

Problems occur, for instance, if formal vocational assessment is conducted without first giving students exposure to the career awareness and career exploration components in the classroom. This means students are not oriented to the concept of work and what it means. They are unaware of what career options exist for them given their strengths, assets, and limitations. Such assessment results are generally less than optimal, since, in essence, the evaluation is being conducted in a void.

Another difficulty in formal assessment can arise when work sampling is used for assessment purposes, especially some of the very expensive commercial vocational assessment materials meant to test large numbers of students. These work samples, which are hands-on activities that simulate the actual job, are often normed on general worker traits and aptitudes--and many youth with disabilities do poorly on these tests (Peterson, 1985b). The formal assessment approach can thereby close more doors than it opens, by suggesting that these individuals lack the aptitude to perform in the given vocational setting.

The dilemma of how best to approach vocational assessment continues to be acted out in the field, where discrepancy still exists between how the experts recommend the vocational assessment process be used and how it is actually implemented. One state survey showed that officials at the state departments of vocational education, special education, and rehabilitation were interested in focusing on vocational assessment in the schools (more policies were being made developed and plans formed to increase training in vocational assessment), but that there was still considerable disagreement among these officials about such details as administration, target populations, and personnel certification procedures (Peterson, 1985a).

Another state survey (Chase, Izzo, & Dunfee, 1987) showed the negative impact of this dilemma on students' education plans. In this case, approximately 50% of vocational assessment reports from vocational assessment centers summarized the results of tests and work samples without interpreting what the test scores meant for educational programs and support services. Because these reports were sometimes difficult for parents and other school personnel to interpret, their impact on the students' educational programs was minimal.

In yet another state study, Neubert (1986) found that placement recommendations from vocational assessments were implemented more frequently than recommendations regarding IEP development or career exploration.

With this in mind, curriculum-based assessment is the approach being advocated by experts for use in the schools. At the same time, it is important to understand that there are variations on how to conduct curriculum-based assessment, many of which incorporate the use of formal assessment as needed. So the curriculum-based approach is not to be practiced to the exclusion of the formal assessment approach. Combined, the two can produce beneficial information that is meaningful to students, parents, and educators who are supposed to use them in decision making. There are, in fact, a number of effective practices that are emphasized by the experts when their works are reviewed and compared.

Best Practices

The various researchers and experts who recommend curriculum-based vocational assessment see it as a dynamic, evolving concept that is well-suited to meeting federal legislative mandates (Albright et al., in press). Attention is being given to familiarizing vocational education and special services personnel with this approach and encouraging them to adopt it.

According to experts, this curriculum-based approach encompasses a number of practices that depart from what has ordinarily been accepted in traditional assessment.

First, experts indicate that the vocational assessment process, at its best, should be an ongoing effort throughout a student's school experience to support the awareness, exploration, preparation, and transition-to-work stages of vocational development (Cobb, 1983; Peterson et al., 1987; Hayes, Warren, & Lopez-Valadez, 1988).

This ongoing effort should be based on a preplanned assessment process for the entire school, which is determined by an assessment planning team. This planning would include careful definition of the purposes of and needs to be fulfilled by the vocational assessment activities. It would designate key decision-making points in the assessment process, as well as who would be involved in the overall process (Stodden & Boone, 1986).

The student's development should begin with curriculum-based vocational assessment prior to vocational education (Peterson et al., 1987) to determine individual readiness and awareness (Stodden & Boone, 1986). This assessment produces a variety of information gathered in different ways, including use of existing data (both psychological and educational); interviews with students and parents; observations made during instruction of students' functional task performance in different settings, testing of interest, aptitude, and awareness; career awareness instruction, work behavior development; prevocational skills training; and more.

Some experts recommend that the special education teacher assume this role. Peterson (1986) suggests that special education teachers, guidance counseling staff, vocational evaluation specialists, school psychologists, rehabilitation personnel, and vocational teachers can all potentially be involved, but that responsibility for the assessment should be taken by special education/counseling from grades one through eight. Then vocational education (working with special education) should take responsibility for grades 9 through 10, after which vocational rehabilitation would enter the picture.

Levinson (1984) points out, however, that special educators often lack the skills and knowledge for providing services in vocational and career education. At the same time, the reverse is also true. Vocational educators often lack training in working with handicapped students. As Levinson put it, "it is . . . clear that no one professional group alone has the expertise required to meet the handicapped's need in this area" (p. 116). For this reason, no one person should have the sole responsibility to conduct vocational assessment (though one trained person may have the responsibility to coordinate the process and the authority to make decisions about it).

Instead, teams of interdisciplinary staff should collaborate. They would conduct a variety of activities throughout the student's school years and would use the results to ensure student success in school and, later, on the job (Albright et al., in press; Levinson, 1985; Neubert, 1982). In addition to vocational teachers and special needs teachers, these other team members can include school psychologists, guidance counselors, vocational evaluation specialists, school social workers, and administrators. Levinson (1984) in fact suggests integrating vocational assessment and special eduction evaluation processes, which means special educators would have a part in assessment. Hohenshil (1982) states that a vocational component should be included as part of every secondary psychological evaluation for disabled students, which gives school psychologists an active part in vocational assessment.

Once prevocational assessment has taken place and the student is placed in a vocational program, assessment should continue within specific vocational courses (Stodden & Ianacone, 1986), with a focus on whether the program is succeeding (Albright et al., in press). Two key questions should be answered: (1) is the student succeeding in the program or are changes needed and (2) are curriculum adaptations and support services being used effectively (Peterson et al., 1987).

Vocational assessment of work-related behavior and vocational skills should primarily involve the student in actual work activities (Peterson et al., 1987). Work samples should be informal, locally developed activities that simulate entry-level vocational tasks (Neubert, 1986).

Assessment continues once students begin to assume actual work roles, for instance through high school cooperative work experience programs. During this time, as well as at the completion of high school (or exit phase, as it is called, by the Wisconsin Department of Public Instruction [n.d.]), focus is on the appropriateness of the programs and the various services that will be provided to help the students successfully complete the transition from vocational education to employment (Peterson et al., 1987; Stodden & Ianacone, 1986). Questions might be: What are the present skills of the student? Is he or she ready for work? In which occupations? What special needs and problems does the student have that will need to be addressed in job placement or postsecondary training? (Peterson et al., 1987).

Assessment Recommendations

- Answer the following questions when planning the assessment: What outcomes are desired from vocational assessment? What assessment methods can most effectively and efficiently be used to meet those goals? How should the process be implemented with individual students? Who should be involved and what should their qualifications be (Peterson, 1986).

- Familiarize special educators, guidance personnel, parents, and vocational instructors with the purpose or objectives of vocational assessment and be sure they ask specific questions about the student's goals, limitations, strengths, behaviors, and interests.

- Ensure that formal vocational assessment reports are translated into working terms and applied collaboratively by the various actors in the process to the student's career exploration activities, IEP development, and vocational placement.

- Support the use of interdisciplinary teams working cooperatively to clarify the purpose and process of the assessment (Stodden & Boone, 1986) and to implement it (Albright et al., in press).

- Ensure that individuals who conduct vocational assessments, whether they are vocational teachers, special education teachers, or others, have the qualifications required of skilled vocational assessment specialists or receive preservice or inservice training sufficient to carry out their role. An unqualified or untrained person may implement assessment ineffectively, despite use of expensive materials or equipment (Peterson, 1986).

- Verify that vocational assessment reflects vocational competencies required in vocational training programs and on the job (Peterson, 1986).

- Consider assessing the following student characteristics/competencies:

  --Vocational aptitudes and abilities
  --Vocational interests
  --Work behaviors, attitudes, and habits
  --Prevocational skills
  --Specific job skills

  - Career awareness
  - Learning potential and style
  - Functional education skills
  - Emotional status and social skills
  - Physical abilities
  - Intellectual abilities
  - Job-seeking skills (Peterson, 1986)
  - General ability
  - Special aptitude
  - Adaptive behavior
  - Survival skills
  - Daily living skills
  - Motor skills/dexterity
  - Lifestyle/consumer satisfaction (DeStefano & Linn, 1986)

- Consider any or all of the following assessment techniques:

  - Medical examinations for information about physical abilities
  - Examination of cumulative records (social, educational, and psychological)
  - Interviews with students and parents
  - Teacher assessments (e.g., of learning styles, successes, problems, vocational interests, functional living skills)
  - Paper-and-pencil tests (e.g., vocational interest inventories, aptitude and achievement tests, and personality tests)
  - Vocational counseling and feedback to support decision-making
  - Dexterity and coordination tests
  - Work samples
  - Performance samples (which are informal work samples)
  - Career exploration via materials or work experience or work samples/job tryouts
  - Systematic behavior observation in controlled settings
  - Tryouts on actual jobs or in vocational education classes

- Support use of vocational assessment (both formal and informal) information in IEPs and individual classroom plans using such methods as team meetings after the assessment, development of summary reports, and use of interpreters of results at IEP meetings (Peterson, 1986, p. 29).

- Seek funding for assessment from a variety of sources, including vocational education, manpower agencies, special education, adult education, vocational rehabilitation, private agencies, and business and industry. Consider sharing resources (including personnel) among several schools, agencies, or groups (Peterson, 1986, p. 35, 37).

- Encourage universities to offer graduate and inservice training in vocational assessment for vocational evaluation specialists and preservice and inservice training to other potential assessment team members.

The Individualized Educational Program (IEP)

The Education for All Handicapped Children Act (PL 94-142) requires that the delivery of appropriate public education to handicapped children be guided by a written IEP that is prepared annually. The IEP process has three specific purposes: (1) to share background information about the student so that everyone can effectively deliver a well-coordinated, appropriate program; (2) to plan the specific goals and objectives for each subject area the student will undertake; and (3) to plan for the student's transition from school to competitive employment. In this way, the IEP is meant to ensure that the student receives a well-balanced program, including functional living skills, the vocational and basic skills necessary to be successful in an occupation, and employability skills (meaning skills in getting and keeping a job).

The Handicapped Children Act further specifies the use of teams composed of individuals from different disciplines in developing, reviewing, and revising the IEP. At a minimum, these teams must include (1) a participant representing the local school district (other than the child's teacher) who is qualified to provide or supervise special education, (2) the student's teacher, (3) one or both of the student's parents or guardians, and (4) the child, when appropriate. The exact composition, other than this, is left to the discretion of each educational agency.

Note that although various aspects of the IEP process are mandated, such as who must be on the support team, what decisions they are to make, how often they should meet, and so forth, nowhere in the legislation is the vocational teacher itemized as a possible participant, nor is the IEP required to include vocational goals and objectives. In fact, research shows that vocational educators are seldom involved in the IEP process.

In a random analysis of secondary special education students' IEPs, less than half contained at least one vocationally oriented annual goal. Limited participation of vocational educators in the staffing team was indicated (Cobb & Phelps, 1983).

A needs assessment of five public school districts, three private special education facilities, and two vocational rehabilitation agencies in the Kansas City area showed that their IEPs rarely included vocationally oriented goals, objectives, and instruction (Dick, 1987).

Another study (Spencer-Dobson & Schultz, 1987) addressed the extent to which multidisciplinary IEP teams serving mentally handicapped and learning disabled students included vocational educators. Teams were found to range in size from 3 to 15 members, with the average size being 7. Yet fewer than 42% of the school districts surveyed included vocational educators as team members. This was despite the fact that 85% of the school districts mainstreamed mentally handicapped students into home economics and industrial education classes, and 87% mainstreamed learning disabled students into these vocational classes. With these facts in mind, the earlier statistics showing that students with disabilities leave secondary education unprepared for employment are less surprising.

This lack of preparation is further substantiated by a study (Margolis & Truesdell, 1987) which showed that special education teachers did not make extensive use of IEPs in preparing their daily instruction, nor did they view the IEP as important in this respect. Instead, they saw it primarily as a legal document requiring their response. The reason given most often for why they considered the IEP useless was (1) the objectives contained were unrealistic (66% thought so) and (2) the objectives were mismatched to the pupil's needs (another 66% thought so).

The researchers corroborated their findings with other similar surveys, and their review of recent literature established the idea that teachers and administrators in general resent IEPs and find them of little instructional utility. They conclude that the teachers they surveyed did not see how IEP-based instruction relates to the larger system through which these special students pass. Despite this attitude, the special education teacher or the school administrator is usually the one who chairs the IEP team (28.4% and 21.6% of teams respectively, as shown by Spencer-Dobson & Schultz [1987]).

In another study (Parks, McKinney, & Mahlman, 1987), a vocational evaluator stated, "Often the persons preparing the IEP have little or no knowledge of the vocational courses and therefore the program is too academically based." (Special education teachers are usually also responsible for monitoring the student's progress in the IEP once it is planned.) Over one-third (36%) of the state special population coordinators responding to the mail survey portion of this study indicated that IEPs are not serving their intended purpose. As stated by one respondent, "No vocational education is being written on the IEPs and if so, it is so generic it does no good--vocational teachers need to be more involved" (p. 37).

Best Practices

Despite these negative facts, the literature also documents successful uses of IEPs and explains how to replicate these uses. An examination of this information indicates that the results of vocational assessment lead naturally to producing the individualized educational program (IEP). One of the things the IEP team often finds difficult, however, is using these assessment results to help identify goals and objectives that will prepare students with disabilities for the transition to work.

Dick (1987) explains how a consortium of schools and agencies serving about 500 learning disabled and behaviorally disordered students annually solved this problem. They provided teachers with inservice training so they could (1) conduct informal assessment themselves, (2) recognize when to refer students for more formal assessment, and (3) interpret and use formal assessment results.

The consortium also developed a bank of objectives for use in IEPs that matched the terminology and results of vocational assessment. These objectives encompassed (1) daily living skills objectives, (2) prevocational objectives, (3) personal-social skills objectives, and (4) vocational objectives. A prepared list of these items could then be easily matched to the bank of transition objectives.

For instance, an item in the assessment report might be "provide instruction in tools and equipment." This could be easily matched with the item in the objectives bank: know basics about equipment, which appears under the goal: to increase vocational skills.

Sarkees, Batsche, & McCage (1986) show how goals and objectives can be identified using competency-based catalogs containing detailed job descriptions for specific occupations. They recommend integrating such materials into the vocational curriculum base for use with disabled students.

Various sources identify the key items to include in the IEP as follows:

- Information on present level of educational performance
- Vocational program placement recommendation
- Annual vocational goals of the individual
- Short-term learning objectives, especially those modifying regular instructional objectives
- Curriculum adaptation or modification planned
- Support services required
- Plans for job placement at end of vocational education (Peterson et al., 1987; Sarkees & Scott, 1985)

The Perkins Vocational Education Act mandates that vocational educators plan to provide services to facilitate the transition of all students from school to work. For working with disabled students, the IEP process is the perfect management tool for complying with this requirement.

Ideally, this planning takes place as a joint endeavor between special educators, vocational educators, and others. A study at Bloomsburg University (1986) points out, however, that this joint planning, as specified in PL 94-142, introduces a new role for the regular classroom teacher or instructor. Now the teacher must retrofit knowledge, becoming essentially a diagnostician and educational strategist. Yet vocational educators often lack the knowledge of how to adjust curriculum and instruction for this population.

To solve this problem, the Bloomsburg University project developed and field tested a diagnostic-prescriptive IEP model to help provide a guided process for vocational and special educators to develop curriculum for handicapped learners. They particularly recommend the use of a resource person who works with teachers implementing the plan. In particular, this person helps provide a positive attitude toward working with handicapped learners and to develop teachers' knowledge of disability. They base this on knowledge from the literature on attitudes that one's ability to change and learn new things depends on one's attitude toward the subject. Further, student performance is dramatically impacted by the perceived value of that individual by the teacher.

Sarkees et al. (1986) also have a solution. They recommend a curriculum planning model that was developed under the Vocational-Technical Education Consortium of States (V-TECS). It facilitates team teaching between vocational educators and special educators, as well as provides a basis for individualized instructional planning. It also helps learners meet industry standards.

A study conducted by a school district in Tacoma, Washington (Gill, 1986), shows that as the district worked to increase cooperation between special eduction and vocational education staff by using the IEP process, a number of positive changes resulted. Enrollment of handicapped learners in reimbursable vocational education increased, both by number and percentage. The number of vocational staff reporting some input into placement of handicapped learners increased. Input into development of the vocational program for students increased, and more content-related goals appeared on the IEPs of students who participated in such programs. Overall, it seemed that secondary special education was changing its relationship to the comprehensive vocational preparation program. Instead of being the primary service provider for all students in this regard, it appeared that special education was beginning to accept a secondary service provider role, at least for mildly handicapped individuals.

IEP Recommendations

- Place more emphasis on the advancement of the individual toward employment.
- use a systematic basis for development of the vocational component of the IEP (e.g., competency-based education and vocational planning recommended by Sarkees et al. [1986]).
- Update IEPs yearly and include specific, clear, vocational goals and objectives.

- Include vocational educators on the IEP planning team.
- Place more attention on the linguistic aspects of courses, or on language arts (i.e., reading, writing). (Parks et al., 1987)

Support Services

Support services (also called supplemental services) are recommended for both the students and the professionals serving them. This support is meant to ensure the success of students in achieving classroom goals and objectives and in acquiring skills that will enhance their future chances of success in the labor market.

The term mainstreaming has been misinterpreted by some and is important in terms of how it relates to providing support services. It does not mean placing all handicapped students in regular classrooms. It means, as defined by Madeline Will (1984), the assistant secretary for Special Education and Rehabilitative Services in the federal government, "moving children in the direction of the main current. For some disabled children that may mean into the regular classroom; for others, it means self-contained classrooms" (p. 6). For those students who are moved into the regular classroom, support services are usually needed to ensure their successful participation.

The Tacoma, Washington, study (Gill, 1986) showed an overall increased use of special education services of 6%, and an apparently related decrease in reliance upon counselors as a result of their increased emphasis on joint IEP planning and development. Some of the supportive services employed were special education teachers and aides, consultation with special education, specialized materials, and out-of-school agencies.

Coordination of support services by a centralized staff member is sometimes recommended to avoid conflict or duplication of services. However, those actually providing the support services might be the special education teacher, the vocational education teacher, or even a person from a community-based organization. Tindall (cited in Parks et al., 1987) notes that schools report using speech therapists, reading specialists, psychologists, and social workers. Parks et al. (1987) indicates the need for services in the following areas:

- Modification of curriculum
- Adaptation of materials
- Performance of assessment tests
- Guidance and counseling
- Remedial and tutorial assistance
- Health-related assistance (for dealing with mental and physical problems)

One type of tutorial support service recommended by many educators and vocational educators is the use of peer tutors. The literature provides ample support for this concept (Ashley, Zahniser, Jones, & Inks, 1986; Asselin & Vasa, 1983; Jenkins & Jenkins, 1985). Tutors can work either one-on-one with younger or same-age students to provide support and reassurance, or they can instruct small groups to allow the vocational teacher to work one-on-one with students requiring more intensive instruction.

A tutoring program should be developed and implemented by the vocational and special education teachers and can offer (according to Asselin & Vasa, 1983) any of the following types of assistance:

- Read material to others
- Review lessons
- Demonstrate skills
- Observe student behavior
- Direct lessons through questions
- Provide feedback and reinforcement to students
- Supervise students performing newly acquired skills
- Reinforce learning in a small group
- Prepare instructional aids or materials

However, in deciding to use peer tutors, care must be taken to outline the tutor role and responsibilities adequately, define qualifications and training required, establish a supervision process, and set up an evaluation procedure to determine the program's effectiveness and identify areas needing improvement.

The support service for vocational instructors cited most often as needed is administration support (Parks et al., 1987; also identified by Wershing, Gaylord-Ross, & Gaylord-Ross, 1986). This is because administrators are the ones who have the authority and/or knowledge to provide additional support, such as equipment with added safety features. Other support services vocational instructors mentioned in the Parks et al. survey are as follows:

- Instructional assistance
- Development of alternative teaching strategies

- Identification of various resources
- Understanding the population
- Curriculum modification
- Assessment of students' strengths and weaknesses
- Development of programs geared to a specific special population category
- Teacher aides or volunteers (with teaching experience)
- Inservice training

The Parks et al. survey emphasized the importance of inservice training in increasing the vocational teacher's effectiveness. Over 96% of the state vocational education special populations coordinators believed school staff (everyone from administrators to vocational, special education, and mainstream teachers) should participate in inservice education activities that address working with special populations. Yet only 47% required such inservice in their states, at least for vocational personnel with little or no experience with special populations.

Support Services Recommendations

- A full-time coordinator should be assigned to ensure that the appropriate services are identified and monitored.
- A combination of educational agencies and community-based organizations should be involved in providing services to special populations (i.e., health, social service, welfare, and rehabilitation, and vocational education, special education, and regular education organizations).
- An effective and supportive administration should ensure that services for vocational instructors and students are implemented.
- Inservice activities should be provided that address appropriate topics and involve qualified special populations professionals on a consultant basis.

- Vocational instructors should have teacher aides or volunteers available for assistance with instruction in or out of the classroom.
- Vocational support staff should be available to assist vocational instructors with any problems. (Parks et al., 1987)

Transition from School to Work

The transition of disabled students from school to postschool life has become a concern in recent years, primarily because of the data that show the lack of employment or low wages earned by these individuals. As one researcher puts it, based on statistics from his study and examination of others, "Society appears to be responding to a problem (handicapped individuals) with innovative programs (special education), yet in reality nothing productive is being accomplished (the individuals in question are not better off because of the programs)" (Edgar, 1987, p. 556). He indicates that over 30% of secondary special education program students drop out of school and that less than 15% of those remaining obtain employment paying above minimum wage. Of those who do find work paying reasonable wages, their success seems to be connected more with such personal factors as student ability level and family characteristics than educational program.

Recognizing this problem, the Office of Special Education and Rehabilitative Services (OSERS) in the federal government has established a national priority to improve transition from school to working life for all disabled individuals. The OSERS envisions the transition process as a bridge between high school and employment. This bridge has secure foundations at each end, with solid spans between that encompass time-limited services, ongoing services, or no services, depending on the nature of the need (West, Gritzmacher, Johnson, Boyer-Stephens, & Dunafon, n.d.). To back up this designation of priority, in 1985-86 OSERS had funding commitments to approximately 100 transition projects for periods ranging from 12 to 36 months (Linn & DeStefano, 1986).

An emerging concept in the theory of transition for disabled individuals, as highlighted earlier in this chapter, is that transition to competitive, supported employment is the appropriate choice for most youth with disabilities, as opposed to sheltered workshops or adult day programs. This is in part the result of the emergence of a systematic or cohesive training technology or instructional procedures for the severely disabled (Lagomarcino, 1986; Wershing, Gaylord-Ross, & Gaylord-Ross, 1986) that allows them to be integrated into the workplace when support can be ongoing (McLoughlin, Garner, & Callahan, 1987).

Given the low job placement rates of sheltered workshops, along with the societal and individual costs of dependency, it makes sense to abandon previous approaches to transition in favor of processes that encourage productivity and improved quality of life for youth with disabilities. Given, too, the fact that preparation and placement of workers have always been the backbone of successful vocational eduction programs, it makes sense for vocational educators to take a role in this transition process.

Supported employment must have three essential elements: (1) wages paid, (2) in a competitive, integrated setting, (3) with ongoing support services (Lagamarcino & Rusch, 1987; Beckett & Fluke, 1988). Experts explain that supported employment works because it guarantees the support disabled individuals need to remain employed. The result when support is lacking is seen in the following statistics: of the 1 out of 8 individuals transferred from sheltered workshops to integrated work environments, only 3% are likely to maintain those jobs for more than 2 years (Bellamy, Rhodes, Bourbeau, & Mank, 1986).

Program Recommendations

Five key factors are highlighted in the literature as aiding the effectiveness of the transition effort: (1) the use of individualized transition plans, (2) paid work experience for disabled youth during the high school years, (3) the fostering of interagency collaboration and communication, (4) the involvement of parents and the family, and (5) the involvement of the employer. It is recommended that each of these be present in some form to ensure the success of disabled youth's transition to work. These are, of course, in addition to solid preparation in the skill areas required for success on the job and appropriate approaches for conveying this training (see, for example, Okolo & Sitlington, 1986; Wershing et al., 1986).

Individualized transition plans. Experts recommend that written plans be developed to provide supportive transition services to disabled students. Called by a variety of names, such as individualized transition plan (Cobb & Hasazi, 1987), IEP transition plan (West et al., n.d.), or vocational/special education individualized transition planner (Bloomsburg University, 1986), the plans are all modeled on the IEP concept and have one thing in common: they establish specific goals and objectives and outline the efforts (or support) necessary to accomplish them. They often entail special education and vocational education working jointly to lay the foundation for transition (Okolo & Sitlington, 1986). Further, they are part of a planned, systematic process that begins well before the student actually graduates from school (Wehman et al., 1985, as cited in Lagomarcino & Rusch, 1987).

Local interagency cooperation. Experts point out that for successful transition to take place, all the agency and institution staff with relevant roles (e.g., school personnel, service providers, employers) must take an active and systematic part in planning and facilitating the transition (DeStafano, in press; West et al., n.d.). This can be accomplished by promoting interagency cooperation through collaborative groups. Such groups are given different labels by experts, including local interagency task forces (Izzo, in press) or community transition teams (Lagomarcino & Rusch, 1987). However, these groups have a common aim--to work collaboratively to share information about programs, coordinate services across agencies, share job leads, develop policies and interagency agreements to coordinate services across agencies, identify gaps in needed services, evaluate success, and carry out any other appropriate role.

Personnel from the following types of agencies should be considered for inclusion:

- Special education programs
- Vocational education programs
- Rehabilitation Services Commissions
- Bureaus of Vocational Rehabilitation
- Departments of Mental Retardation/Developmental Disabilities--school age and adult programs
- Private Industry Councils (PICs)
- Bureaus of Employment Services
- Mental health agencies
- Divisions of Youth Services
- JTPA

It is important to contact many of these individuals long before a student is expected to complete a high school program as some services can only be provided during specified time periods and for many services there are waiting lists.

A variety of demonstration projects have shown the efficacy of interagency cooperation. For instance, Project ASPIRE (Butler, 1985) of the Lake Tahoe Unified School District, California, found that interagency collaboration/community involvement allowed the project to provide more comprehensive services, to be more cost-effective, and to minimize the duplication of services. Over 60% of this project's 16- to 21-year-old participants were placed in unsubsidized private sector employment over a 3-year period.

Paid work experience. Research shows that disabled students who hold paying jobs during high school are more likely to be employed after high school (Hasazi, Gordon, & Roe, 1985). Various model projects have therefore included paid work experience opportunities as components in their transition programs for disabled students (Butler, 1985). There is no question that early placement of disabled youth in paid jobs, or even short-term work experience programs, supports their later success in the job market.

Parental involvement. Research also shows that a key resource in fostering employability of disabled individuals is the family. In fact it was parents who provided key lobbying efforts in the passage of PL 94-142.

Unquestionably, parents can be instrumental in supporting their children's success in transition. They are usually the people who are closest to the disabled youngster and the ones who know him or her best. Yet many parents have legitimate reservations about sending their disabled children to work in the competitive environment. They have questions and fears that can limit their enthusiasm toward the endeavor (Beckett & Fluke, 1988).

In working effectively with parents, school personnel should provide the following support and information on an ongoing basis long before the actual transition takes place:

- Information on community agencies providing support services
- Information on supported employment available in the community
- Opportunities to contribute to the development of transition plans (Lagomarcino & Rusch, 1987)

- Information about the details and positive aspects of supported employment (e.g., the value and meaning of work for young people with disabilities, the range of employment options that are feasible) (Beckett & Fluke, 1988)

Some practitioners (Beckett & Fluke, 1988) recommend the use of group problem-solving sessions to help parents of disabled youth address uncertainties and concerns related to participation in supported employment. This approach has been shown to generate a large quantity of information in a short period of time, and though it does not answer all questions or solve all problems, it provides the opportunity for parents to discover and address common concerns and to receive support in these areas.

Employer involvement. Given that vocational education was originally conceived to fill the labor market needs of employers, vocational programs need to keep abreast of employer's needs and by involving them in the transition process. Experts advise a variety of approaches for doing this. One often-used practice for accomplishing this is use of the employer advisory committee.

In terms of the employer's role in ensuring successful transition, it is important that they be properly prepared to train and supervise workers with disabilities. The following seven areas are considered important when offering training activities for employers:

- Critical issues involved when hiring people with disabilities
- Supervising workersd with disabilities
- Appropriate incentives, disincentives, and barriers that apply to the employment of workers with disabilities

- Disabled workers' characteristics

- Strategies for accommodating workers' disabilities in o their work environments

- Effective communication strategies

- Conflict management strategies (Brown, Joseph, & Wotruba, 1989, p. 217)

With the propose emphasis on abilities and a quality training program that matches student's abilities to job shortages in the community, vocational educators can have increased success in job placement of disabled students.

Summary Recommendations

The following recommendations are based on many of the key points made in this chapter regarding the improvement of vocational education for disabled individuals.

At the National Level

- Strengthen federal and state laws to mandate interagency cooperation at state and local levels for the purpose of transitioning disabled youth to competitive employment with necessary support to maintain that placement.

- Conduct a nationwide follow-up and follow-along study to determine the exemplary program characteristics that lead to successful student outcomes (e.g., the most job placements and the highest wages).

- Conduct research to highlight model practices for conducting interagency cooperation at the local level.

- Document the process states are using to meet the mandate in the Perkins Act for assessing special needs students' interests and abilities.

- Support changes in federal and state laws that allow persons with disabilities to engage in paid work without risking their coverage through government programs, which will allow them to provide a greater portion of their own support than if they lose benefits when working.

- Strengthen the tracking system to gain follow-up data on all youth who exit programs to determine program effectiveness and necessary program revisions.

- Conduct additional research on the attitudes and actual hiring practices of employers regarding disabled individuals.

At the State Level

- Mandate interagency cooperation among regular, vocational, and special educators; adult rehabilitation personnel; JTPA personnel; Bureau of Employment Services personnel; and other training and employment service providers. Encourage agencies to simplify and clarify eligibility criteria and to coordinate services and data collection efforts.

- Provide resources to support cross-agency training to coordinate a smooth transition from school to work for disabled individuals.

- Mandate that schools appoint a transition coordinator to initiate the transition process and ensure that youth leaving school (and their parents or guardians) have a written record of (1) their interests, abilities, learning styles, academic and vocational skills, and (2) names, addresses, and phone numbers of appropriate adult services providers to provide follow-up support and services after graduation.

At the Local Level

- Strengthen career guidance and counseling programs to include such opportunities as (1) early career exploration, (2) introduction to vocational education classes, (3) informal vocational assessment, (4) formal school-based vocational assessment if needed, (5) integration of prerequisite basic skills into elementary and junior high curricula.

- Improve secondary special education programs so that vocational training objectives are covered in each disabled individual's IEP.

- Mainstream youth with disabilities into vocational training programs, as appropriate, using the IEP process to (1) identify support services necessary for successful completion of the program (e.g., basic skills remediation, equipment modifications, curricula adaptation, and instructional strategies allowing for different learning styles); (2) identify at what point of the career ladder the student will exit from the program; and (3) identify the point at which the student will undertake early job placement.

- Expand the vocational continuum for those youth who cannot be appropriately mainstreamed to include such programs as (1) cooperative education, (2) occupational work experience, (3) apprenticeship, (4) on-the-job training, (5) work-study experience, (6) experience-based career education, and (7) internships.

- Focus on a successful job placement outcome for all program participants through early job placement at least 6 months prior to graduation.

- Offer high school credit in math and sciences within the vocational program to make vocational education a more attractive elective for the college-bound student and thereby promoting a more balanced student population within the vocational school.

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ENCOURAGING NONTRADITIONAL OPTIONS

Louise Vetter

The Perkins Act and the Final Regulations for the act prescribe that 3.5% of the funds reserved under the Vocational Education Opportunities Program be reserved for individuals who are participants in programs designed to eliminate sex bias and stereotyping in vocational education (Section 401.92), often referred to as the sex equity program. Three uses of the funds are prescribed in the Final Regulations.

States shall use the reserved funds for the following purposes:

1. Programs, services, and activities to eliminate sex bias and stereotyping in secondary and postsecondary vocational education programs.
2. Vocational education programs, services, and activities for girls and women aged 14 through 25, designed to enable the participants to support themselves and their families.
3. Support services for individuals participating in vocational education programs, services, and activities described in 1 and 2 above, including dependent-care services and transportation. (Section 401.56)

The Final Regulations go on to state that the age limitations (14-25) may be waived if the sex equity coordinator determines that the waiver is essential to meet the objectives of the program. As with the Single Parent and Homemaker Program, one or more of the three areas listed above should be included in each program funded. Also, cooperative and apprenticeship programs may be funded if the programs are to eliminate sex bias and stereotyping.

States may require cost sharing for sex equity programs. However, if a state chooses to do so, the requirement must be identified as a state requirement, not a federal requirement.

Definitions

The Final Regulations for the Perkins Act do not include definitions of sex bias and stereotyping. However, the Final Regulations for the previous vocational education law (PL 94-482, Education Amendments of 1976) provided the following definitions (Vetter, Burkhardt, & Sechler, 1978):

- Sex bias--behaviors resulting from the assumption that one sex is superior to the other
- Sex stereotyping--attributing behaviors, abilities, interests, values, and roles to a person or a group of persons on the basis of their sex

No definitions for nontraditional program or nontraditional occupation are provided by the Final Regulations. Hayes (1986) reviewed 30 studies and concluded that the most important issue in studying occupational gender concentrations and individuals who enter "cross-sex-typed" occupations is the development of systematic methods to define and measure gender-concentrated occupations. Hayes also concluded that, at present, no one approach can be judged the best. Until future research has established a "best way" of defining nontraditional occupations or programs, it is necessary to continue to report the definitions used by specific researchers in attempting to compare across various studies and results.

As can be seen from the definitions for sex bias and sex stereotyping, programs under the sex equity program can be developed for either sex. In practice, however, much of the work being done has focused on opportunities for girls and women.

Description of Group

Information on vocational education enrollment statistics will be presented. Following the enrollment statistics, trends in labor market statistics will be discussed.

Vocational Education Enrollments

Vocational education has been operating under federal mandates to expand opportunities for girls and women since 1972 (Title IX) and specific programming mandates since 1977 (Title II). What have been the effects of these mandates on the enrollment of girls and women in vocational education programs?

Table 1 provides information on enrollments in occupationally specific vocational education instructional programs by service area. Enrollment figures are for the 1971-72 school year (predating Title IX) and for the 1981-82 school year (the most recent figures available). (The Vocational Education Data System [VEDS] has been discontinued by the National Center for Education Statistics.) Students enrolled in consumer and homemaking programs and in industrial arts programs are excluded.

The information in Table 1 provides an indication of the extent of change in the enrollment patterns of girls and women. However, because it is difficult to collect statistics on vocational education enrollments, there are some caveats. Conclusions based on the data must be considered somewhat

Table 1. CHANGES IN ENROLLMENT OF WOMEN IN VOCATIONAL EDUCATION OCCUPATIONALLY SPECIFIC PROGRAMS FROM 1971 TO 1981

Program	1971-72 Women Enrolled[a]	1971-72 Percentage Women[a]	1981-82 Women Enrolled[b]	1981-82 Percentage Women[b]	Percentage + or - 1971-1981[c]
AGRICULTURE	48,163	5.4	82,610	21.7	+16.3
Agricultural Production	22,581	4.0	34,194	18.5	+14.5
Agricultural Supplies/ Services	1,172	4.8	4,562	22.4	+17.6
Agricultural Mechanics	1,408	1.1	3,203	5.3	+ 4.2
Agricultural Products	736	7.8	829	20.6	+12.8
Horticulture	15,157	26.9	29,142	43.9	+17.0
Natural Resources	1,863	7.6	2,336	23.5	+15.9
Forestry	527	2.9	2,973	17.0	+14.1
Other Agricultural Programs	4,719	6.6	5,371	31.5	+24.9
TECHNICAL	33,007	9.8	93,384	22.3	+12.5
Architectural Technology	1,151	8.1	5,174	22.1	+14.0
Automotive Technology	60	0.8	738	5.1	+ 4.3
Civil Technology	799	4.0	2,168	13.8	+ 9.8
Electrical Technology	222	1.4	862	7.0	+ 5.6
Electronics Technology	1,350	2.1	11,814	11.7	+ 9.6
Environmental Control Technology	210	4.5	491	8.7	+ 4.2
Industrial Technology	1,143	9.8	2,512	15.6	+ 5.8
Mechanical Technology	905	3.4	2,606	11.9	+ 8.5
Scientific Data Processing	5,397	31.8	11,756	55.7	+23.9
Commercial Pilot Training	389	6.6	371	18.8	+12.2
Fire and Safety Technology	78	0.9	1,293	8.1	+ 7.2
Police Science Technology	4,180	9.5	17,942	30.7	+21.2
Water and Waste Water Technology	188	13.3	573	14.8	+ 1.5
Other Technology	16,935	17.7	34,084	33.5	+15.8

Note: Vetter, Louise. (In press). The vocational education option for women. In Job training for women: The promise and limits of public policies. Philadelphia: Temple University Press.

Table 1 (continued)

Program	1971-72 Women Enrolled[a]	1971-72 Percentage Women[a]	1981-82 Women Enrolled[b]	1981-82 Percentage Women[b]	Percentage + or - 1971-1981[c]
TRADE AND INDUSTRY	**279,510**	**11.7**	**296,702**	**18.5**	**+ 6.8**
Air Conditioning	2,664	3.9	1,568	3.3	- 0.6
Appliance Repair	507	2.9	634	6.6	+ 3.7
Auto Body and Fender Repair	1,082	1.9	1,943	3.1	+ 1.2
Auto Mechanics	5,299	2.3	11,012	5.1	+ 2.8
Other Automotive	1,640	4.1	1,184	8.7	+ 4.6
Aviation Occupations	2,187	6.9	2,063	10.8	+ 3.9
Commercial Art Occupations	15,766	50.1	20,725	57.5	+ 7.4
Commercial Photography Occupations	3,756	25.7	7,983	44.1	+18.4
Carpentry	1,451	1.5	4,302	5.2	+ 3.7
Electricity	590	1.0	900	3.6	+ 2.6
Masonry	236	0.8	652	2.9	+ 2.1
Plumbing/Pipe Fitting	34	0.1	461	2.9	+ 2.8
Other Construction	1,566	2.0	4,907	7.4	+ 5.4
Custodial Services	2,547	15.7	1,115	15.8	+ 0.1
Diesel Mechanic	185	1.4	834	3.3	+ 1.9
Drafting Occupations	6,892	5.4	20,940	20.6	+15.2
Electrical Occupations	909	1.1	1,846	5.7	+ 4.6
Electronic Occupations	4,412	4.5	11,833	12.5	+ 8.0
Foremanship, Supervision, and Management Development	22,562	18.7	4,906	40.4	+21.7
Graphic Arts Occupations	8,290	12.1	23,976	39.1	+27.0
Instrument Maintenance and Repair	107	3.5	485	17.9	+14.4
Maritime Occupations	202	3.0	321	10.4	+ 7.4
Metalworking Occupations	3,081	1.1	11,212	4.7	+ 3.6
Metallurgy Occupations	43	0.8	48	8.7	+ 7.9
Cosmetology	45,870	94.0	70,092	94.1	+ 0.1
Other Personal Services	11,300	65.2	6,923	61.7	- 3.5
Plastics Occupations	1,153	22.5	250	10.8	-11.7
Fighter Training	3,321	2.1	1,502	9.2	+ 7.1
Law Enforcement Training	5,943	7.9	12,589	24.4	+16.5
Other Public Services	22,483	38.4	9,462	57.2	+18.8
Quantity Food Occupations	14,094	37.6	15,343	47.4	+ 9.8
Refrigeration	814	7.3	348	10.3	+ 3.0
Small Engine Repair	605	2.3	804	3.8	+ 1.5
Stationary Energy Sources Occupations	274	3.7	186	10.0	+ 6.3
Textile Products	42,210	82.4	7,913	70.7	-11.7
Upholstering	7,605	46.0	3,268	38.9	- 7.1
Woodworking	5,373	6.3	2,387	9.2	+ 2.9
Other T & I	32,457	18.6	29,785	28.1	+ 9.5

Table 1 (continued)

Program	1971-72 Women Enrolled[a]	1971-72 Percentage Women[a]	1981-82 Women Enrolled[b]	1981-82 Percentage Women[b]	Percentage + or − 1971-1981[c]
MARKETING AND DISTRIBUTION	290,028	45.3	290,744	57.4	+12.1
Advertising Services	7,933	45.2	10,108	59.5	+14.3
Apparel/Accessories	16,603	67.0	20,855	84.9	+17.9
Automotive	1,391	14.4	798	13.7	− 0.7
Finance and Credit	11,828	42.2	23,089	72.5	+30.3
Floristry	3,616	69.1	5,180	80.8	+11.7
Food Distribution	10,899	37.5	11,968	44.1	+ 6.6
Food Services	21,139	61.9	18,304	58.5	− 3.4
General Merchandise	104,582	51.1	95,079	59.8	+ 8.7
Hardware and Building Materials	1,276	22.3	671	23.2	+ 0.9
Home Furnishings	3,516	59.9	1,497	60.4	+ 0.5
Hotel and Lodgings	5,218	41.1	5,007	47.2	+ 6.1
Industrial Marketing	2,501	29.0	8,244	46.6	+17.6
Insurance	3,551	27.0	2,586	50.3	+23.3
Personal Services	9,161	51.4	3,919	66.6	+15.2
Real Estate	26,165	31.9	24,067	45.7	+13.8
Recreation/Tourism	6,108	47.8	11,051	65.7	+17.9
Transportation	4,197	33.7	6,496	51.3	+17.6
Other Distribution	50,344	43.4	41,825	54.8	+11.4
HEALTH OCCUPATIONS	285,241	84.7	380,229	84.8	+0.1
Dental Assisting	14,406	93.1	16,364	95.5	+ 2.4
Dental Hygiene	4,584	96.4	6,167	96.4	0.0
Dental Laboratory Technician	1,221	41.4	1,836	53.5	+12.1
Medical Laboratory Assistant	8,176	77.7	5,568	80.1	+ 2.4
Other Medical Laboratory Technicians	2,676	84.8	3,987	75.6	− 9.2
Nurse, Associate Degree	58,474	90.1	93,283	91.2	+ 1.1
Practical (Vocational) Nurse	78,302	94.5	72,678	94.2	− 0.3
Nursing Assistant	53,308	90.5	48,616	89.7	− 0.8
Rehabilitation Therapy	2,267	75.4	5,402	83.9	+ 8.5
Radiologic Technology (X-ray)	3,543	61.4	7,749	73.7	+12.3
Mental Health Technician	2,880	73.9	6,258	78.7	+ 4.8
Inhalation Therapy Technician	3,206	55.7	6,953	66.8	+11.1
Medical Assistant	9,539	92.4	18,579	92.0	− 0.4
Medical Emergency Technician	---	---	8,743	36.1	---
Other Health Occupations	42,659	66.1	78,046	81.3	+15.2

Table 1 (continued)

Program	1971-72 Women Enrolled[a]	1971-72 Percentage Women[a]	1981-82 Women Enrolled[b]	1981-82 Percentage Women[b]	Percentage + or - 1971-1981[c]
HOME ECONOMICS (OCCUPATIONAL)	241,239	86.1	188,061	79.6	- 6.5
Care and Guidance of Children	71,586	92.8	91,426	92.4	- 0.4
Clothing Management, Production, Services	56,818	95.5	22,483	89.6	- 5.9
Food Management, Production, Services	58,359	75.2	47,772	62.0	-13.2
Home Furnishings, Equipment, Services	18,698	87.9	6,528	80.7	- 7.2
Institutional and Home Management	7,193	89.2	5,194	69.7	-19.5
Other Home Economics Occupations	28,585	78.0	14,658	75.5	- 2.5
OFFICE OCCUPATIONS	1,797,205	76.4	1,342,527	73.8	- 2.6
Accounting and Computing	210,255	59.8	244,193	68.8	+ 9.0
Business Data Processing Systems	76,763	49.0	180,250	57.1	+ 8.1
Filing/General Office	327,454	82.2	238,732	82.4	+ 0.2
Information Communication Occupations	17,241	72.4	13,175	72.7	+ 0.3
Materials Support	5,324	51.7	2,287	47.3	- 4.4
Personnel Training	8,671	63.3	8,444	65.1	+ 1.8
Stenographer/Secretary	528,863	96.0	322,925	93.5	- 2.5
Supervisory and Administrative Management	21,481	27.6	80,551	53.3	+25.7
Typing and Related	500,517	79.6	192,926	80.5	+ 0.9
Other Office Occupations	100,636	71.2	59,044	68.2	- 3.0

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[a] Information from the 1973 report Summary Data Vocational Education Fiscal Year 1972 (Division of Vocational and Technical Education). Figures include high school (9th through 12th) and postsecondary enrollments.

[b] Figures and percentages calculated from enrollment figures in Table 1206, unpublished data, U.S. Department of Education, 1984 June 4. A total of 525,294 "Status Unknown" students were excluded from the calculations. Figures include high school (11th and 12th) and postsecondary enrollments.

[c] These percentages must be interpreted with extreme caution. The National Center for Education Statistics has indicated that the accuracy of the figures for its tables is dependent on the reporting of the states, and inaccuracies in the reporting from only one state can cause major changes in the total figures. Additionally, 9th and 10th graders are included in the 1971-72 data and are not included in the 1981-82 data, so that the databases are not the same.

tentative, and the 10-year percentage of change must be interpreted with extreme caution.

Procedures for collecting enrollment data have changed over the 10-year time span. The 1971-72 figures include grades 9-12 and postsecondary enrollments. The 1981-82 figures are for grades 11-12 and postsecondary enrollments and 525,000 students whose sex was not reported are excluded from the table.

There are also problems with the accuracy of enrollment data. The National Center for Education Statistics (NCES) asked states to ask school districts reporting for the Vocational Education Data System (VEDS) to count each student enrolled in vocational education only once, even though the student may be taking more than one vocational course or program. However, schools do not necessarily follow this procedure. As a result, some students may be counted in more than one place in the national aggregations. In addition, as NCES points out, VEDS data are dependent on the reporting of the states, and inaccuracies in the reporting of only one state can cause major changes in the total figures (Vetter & Hickey, 1985).

Given these caveats, what can be tentatively said about the progress in broadening opportunities for girls and women in vocational education?

In the traditionally male programs of agriculture, technical, and trade and industry, both the numbers and the percentages of students who are women have increased. Agriculture showed the highest overall percentage increase in female enrollments. The largest number of women enrollees in agriculture is not in the horticulture programs, as is sometimes suggested, but in agricultural production programs. These programs typically lead to employment on farms or with farm-related businesses. More recent data (1984) from 1,786 area vocational centers showed that 32.1% of agriculture students were women (Project on Equal Educational Rights, 1986). (The data utilized in the Project on Equal Educational Rights study do not include information from vocational high schools and comprehensive high schools. It is likely that enrollments of women have also increased in these schools; however, no data are currently available to confirm this.)

The two technical programs that showed the largest increases in enrollment of women are scientific data processing--possibly because of the program's close relationship to office occupations--and police science technology. More recently, Harris (1986) indicated that in Connecticut, less than 25% of the student enrollees in state technical colleges were women and more than 70% of them were enrolled in data processing technology.

The growth of female enrollments in police science technology is perhaps a result of the growth of affirmative action programs in the public sector. The 1984 data from area vocational schools showed that 42.6% of students in protective services were women (Project on Equal Educational Rights, 1986). Programs in the technical area are concentrated at the postsecondary level; only 7% of technical students are enrolled in high school programs.

The increased enrollment of women in the traditionally male trade and industry area is primarily accounted for by cosmetology (a traditionally female program), where the numbers but not the percentage of women enrolled increased, commercial photography, drafting, graphic arts, and law enforcement programs. Additionally, there are over 10,000 girls and women enrolled in auto mechanics, commercial art, electronics, metalworking, and quantity food occupations. Although the total number of students enrolled in foremanship (sic), supervision, and management development has apparently decreased considerably, women's share of the enrollment has increased more than 20%. The national data show that women are still only a very small percentage of students in craft and repair occupations. PEER (1986) reported that 1984 enrollments at area vocational schools remained low for women in the construction trades (4.1%) and in mechanics and repairers programs (4.1%).

In marketing and distributive education, which has traditionally had sex-balanced enrollments, the number of women enrolled remains about the same, but the percentage of women has increased. (This may be the result of changes in the data collection procedure.) Approximately one-third of the women in marketing and distributive education continue to be enrolled in one program, general merchandise, which typically leads to retail sales positions.

The number of women enrolled in traditionally female health occupations has increased, but their share of the total has remained steady at 85%. (Because 80% of the health occupations programs are at the postsecondary level, the elimination of 9th and 10th graders in the data collection procedure probably has not had much effect on the figures.) With the exception of two programs, dental laboratory technician and medical emergency technician, all of the programs have over 70% enrollment of women.

Both occupational home economics and office occupations, the other two traditionally female programs, show an increase in male student enrollment. The apparent change could be a result of the change in data collection procedures, but it is also likely that efforts to recruit nontraditional students are responsible for the changes.

The most noteworthy advance for women within office occupations is in supervisory and administrative management. Women now are over half the students enrolled in this program; in 1971, only about one quarter of the students were women. Over the 10-year period from 1971-72 to 1981-82, the concentration of women vocational education students in office occupations decreased from 60% to 48% (see Table 2). Although women are still highly concentrated (and segregated) in clerical training programs, this change indicates that women are beginning to take advantage of the broad range of options available to them through vocational education.

State-level statistics. Because one of the mandated functions of the state sex equity coordinator is to

> gather, analyze, and disseminate data on the (i) adequacy and effectiveness of vocational education programs in the state in meeting the education and employment needs of women, including the preparation of women for employment in technical occupations, new and emerging occupational fields, and occupations regarded

Table 2

Distribution of Women Students in Vocational Education Service Areas

Program	1971-72[a] Percentage	1981-82[b] Percentage
Agriculture	1.6	3.2
Distribution	9.8	11.3
Health Occupations	9.6	14.7
Home Economics (Occupational)	8.1	7.3
Office Occupations	60.4	48.4
Technical	1.1	3.6
Trade and Industrial	9.4	11.5
Total	100.0	100.0

Note. From Vetter (in press).

[a] Percentages calculated from enrollment figures in Summary data vocational education fiscal year 1972 (Division of Vocational and Technical Education, 1973).

[b] Percentages calculated from figures in Table 1206, unpublished data, Vocational Education Data System, National Center for Education Statistics, (U.S. Department of Education, 1984).

> as nontraditional for women; and (ii) status of men and women students and employees in the program listed in (i) above (Section 401.13)

a range of state-level reports are becoming available (e.g., Louisiana State Department of Education, 1984; Minnesota State Commission on the Economic Status of Women, 1986; Mississippi State Department of Education, 1987; Missouri Department of Elementary and Secondary Education, 1988; Virginia State Department of Education, 1986). Although reports such as these can be very helpful at the state level, they cannot be used to give an accurate national picture, primarily because states have implemented a variety of management information systems so that various data collection procedures are used to obtain the enrollment information.

Trends in the Labor Market

Today, 7 out of 10 women age 25 to 54 are members of the labor force, as are the majority of mothers--even mothers of very young children (Shank, 1988). Among employed women, 3 out of 4 worked full-time in 1986, and well over half of them worked year round and full time. The Bureau of Labor Statistics projections to the year 2000 call for continued increased in labor market activity of women.

Beller (1984) documented the shift in the 1970s of women entering a wide variety of occupations that had formerly been primarily male. The changes have been most prominent at the professional and managerial level. Sidel (1986) indicated that from 1962 to 1982 the percentage of women among engineers rose from 1 to 6%; among physicians from 6 to 15%; among college teachers, from 19 to 25%; and that in 1982, women were 15% of all lawyers. However, two-thirds of women are still employed in service and retail jobs or in state and local government.

Women's wages still remain low relative to men's, however (Hartmann, Kraut, & Tilly, 1986). In general, the percentage of women in an occupation is strongly correlated with its average earnings; the more women in an occupation, the less it pays. Additionally, promotional opportunities and access to on-the-job training for women are restricted relative to those for men (Reskin & Hartmann, 1986).

Despite legislative and legal aids designed to reduce the persistent earnings inequality between employed men and women, Kemp and Beck (1986) have pointed out that there is little evidence of improvement over the past 40 years. They found, within a collection of work-homogeneous occupations, that discrimination against females in earnings is extensive. They conclude that

> although there is much attention today on the issue of comparable worth, it appears we have yet to achieve equal pay for equal work. (p. 324)

Problems

The problems women (and men) face in opting for nontraditional vocational education programs are discussed next. Sex bias and stereotyping; harassment; lack of support by family, school personnel, and peers; lack of guidance programs; lack of role models; and job placement concerns are of interest in this area.

Sex Bias and Sex Stereotyping

The sex bias and sex stereotyping in education and occupations in the late 1960s and 1970s were documented by Vetter, Sechler, Lowry, & Canora (1979). They concluded that, at that time, interests in occupations tended to be sex stereotyped, perhaps more for "real" choices than for "ideal" choices. Family members (parents, in particular), the mass media, and nearly every element of public education had been criticized in the literature for helping perpetuate rigid sex roles that limit people's vocational options to those traditional to their sex. Experimental studies had shown that sexist language and sexist instructional materials had affected the responses of students.

Student stereotypes. Hughes, Martinek, and Fitzgerald (1985) reported that for elementary school girls, the relationship between self-esteem and nontraditional attitudes is reliably established as early as the primary years in school, whereas boys with high self-esteem had more traditional ideas concerning sex roles in the workplace. Rural Louisiana fifth and eighth graders gave open and nonconservative responses when asked about the relationship between sex and career choice for others, but students of both sexes were more traditional when considering their own future jobs (Shaw & Gorrell, 1985).

At the high school level, studies of the High School and Beyond (HSB) database indicated that students in programs nontraditional for their sex (30% or fewer of their sex), whether male or female, held higher self-concepts than their counterparts in traditional programs (Culver & Burge, 1985b). On the whole, males were found to have more positive self-concepts than females. HSB students in traditionally female programs had the highest job aspirations (measured by the Duncan Socioeconomic Index). Women students in male-intensive, female-intensive, and nonsex-intensive programs had higher aspirations than males in each of these groups (Culver & Burge, 1985a). This result is primarily an artifact of the Duncan Index in which clerical occupations are assigned a 57, whereas technical occupations are 16, crafts occupations, 27, and farmer, 28.

Lifschitz (1983) had high school students rate males and females in traditional and nontraditional occupations on personality traits. Her results revealed more occupational stereotypes than sex role stereotypes. Loukellis (1987) found that whether or not 11th- and 12th-grade women students' mothers were employed in traditional or nontraditional (70% or more men) occupations was not related to the daughters' career interests or sex role orientation (as measured by the Bem Sex Role Inventory). Additionally, the young women as a group had a very narrow range of career interests.

Adult stereotypes. Of 1,551 North Carolinians surveyed by Dillon (1986), 63% thought that women had not been treated equally with men in being allowed to earn enough money to support themselves independently. Women's views toward working mothers and separate work roles were significantly more positive than were men's.

In a study of two small towns on the Western Slope of Colorado (Lillydahl, 1986), 695 people responded to a questionnaire. When asked about an interest in blue-collar, energy-related jobs, about 50% of the women under age 35 and 35% of the women over age 35 indicated some interest in traditionally male jobs. Women who held, or had held, traditionally male jobs had positive comments about their experiences, although there were frequent reports of harassment on the job.

Attitudes toward women coal miners in an Appalachian coal community were substantially negative, but varied by gender (Trent & Stout-Wiegand, 1987). Men coal miners were negative toward female co-workers, but they supported women's right to coal mine jobs, whereas women homemakers did not.

Ruggiero and Weston (1985) studied the work options for women as profiled in women's magazines. They found that established magazines (e.g., McCalls, Good Housekeeping) were more likely to profile women in traditional occupations and that women profiled in the new magazines (e.g., Savvy, Ms) were more likely to feel more responsible and powerful at work.

Employers of nontraditional vocational graduates (N=34) indicated that sex stereotypes are a major barrier to such employment (Burge, 1983). Eighteen percent of the employers surveyed reported that they believed some jobs in their business could not be effectively filled by a man, and 24% reported a belief that there were some jobs that a woman could not effectively fill. Thus, while the employers indicated that the problem was that clients or consumers would be uncomfortable with nontraditional workers, it was apparent that the employers themselves were also uncomfortable.

Hagerty (1985) stated that moving more women into nontraditional occupations will depend on the willingness of employers and educators alike to continue to accept the challenge to do so--to be innovative in their approaches and to persevere despite tenacious beliefs about stereotypical women's roles.

Harassment

In 1978, the largest single problem identified by women students in nontraditional (fewer than 25% women) high school vocational education programs was that of harassment by their male classmates (Kane & Frazee, 1978). Fewer problems were reported as being related to the teachers. The problem of harassment was much diminished for the women in classes having at least four women. This finding has obvious implications for policies of class assignment. When few women are enrolling in a nontraditional program, it would be helpful to assign them to the same class. Where only one or two women are enrolling in a program, support groups for women in different programs could be helpful. Teachers must be made responsible for combatting the "turfism" that is being expressed by the traditional male students. When women are no longer a novelty in the class, as by now is the situation in some nontraditional programs, this problem may fade as the male students expect the women to be there.

This has occurred in the New York City high schools. Schulzinger and Syron (1984) reported the following:

> Many female students enrolled in predominantly male vocational schools and programs have noticed a significant reduction in discriminatory treatment and harassment by teachers and students. . . . It appears that the reduction in discriminatory treatment and harassment is the result of two major factors: (1) the increased number of female students in some male schools or (2) the presence of a principal who has taken a leadership role to improve the school environment for young women. (pp. 49-50)

In looking at sexual harassment among women in traditional male occupations, Lafontaine and Tredeau (1986) found that more than 75% of 160 women in traditional male occupations reported experiencing harassment. This is higher than the over 50% generally cited for the population as a whole. However, the women employed in firms perceived to have high equal employment opportunity for women reported significantly lower levels of harassment. Perhaps, as in the high schools, eventually enough managers and administrators will provide the safe environment needed for women to work without harassment.

Interestingly, research on women in traditional and nontraditional occupations (Curtiss, 1984; Harlan & Jansen, 1987; Jaqua, 1987) indicates that women in female-dominated occupations show more psychological and physical distress than do those in other occupations. For example, engineers were more likely than teachers to experience stress associated with colleagues, with being forced into stereotyped behaviors, and with lack of promotional opportunities and female role models, whereas teachers scored significantly higher on conflict of home and work roles.

Lack of Support by Family, School Personnel, and Peers

A statewide study in West Virginia (Sproles, 1987) indicated that for nontraditional (less than 20%) completers of vocational programs, friends, parents, and school personnel were perceived as less helpful and nonsupportive. Friends were more likely to support traditional choices than nontraditional choices. Vocational teachers were perceived as being more helpful than parents and friends by the traditional respondents, whereas parents were more helpful for the nontraditional respondents.

Houser and Garvey (1985), in studying California women in vocational education programs, found that nontraditional students differed from traditional students primarily in the support they received from female friends and family members. Additionally, compared to a group of students who had considered nontraditional programs but then enrolled in traditional programs, the nontraditional students reported receiving more encouragement from school personnel.

Guidance Programs (or Lack Thereof)

Data on counselors indicate that male counselors are more negative toward nontraditional careers than are female counselors. Additionally, counselors are much more negative toward men than toward women having nontraditional careers (Fitzgerald & Cherpas, 1985; Haring, Beyard-Tyler, & Gray, 1983).

Haring-Hidore and Beyard-Tyler (1984) pointed out that counselors should realize nontraditional careers are not optimal for everyone. Blanket advocacy of nontraditional careers would disregard clients' individuality; however, lack of awareness about the range of options also denies clients optimal information on careers.

Lack of Role Models

A number of studies (Hollenback, 1985a; Kendall & Miller, 1983; Stringer & Duncan, 1985) have indicated that at both the secondary and postsecondary levels, a lack of role models is discouraging to students who may consider enrollment in a nontraditional vocational program. Programs that have dealt with this concern will be discussed later.

Job Placement

When students complete a vocational program, they should be ready for placement on the job. A major concern of students in nontraditional programs is whether they will find employment (Hollenback, 1985a, Robinson, Pennell, & Randolph-Cason, 1985). Hollenback indicated the necessity for faculty members to encourage potential employers to hire nontraditional students at adequate salaries and with adequate opportunities for job advancement.

Review of Research Literature

The program outcomes literature reviewed here was identified through searches of computerized databases extending from 1983 to August 1988. Searches were conducted in the ERIC database, Dissertation Abstracts, and social science databases.

Exemplary Models

Kouzekanani and Knight (1983) synthesized nearly 100 pieces of literature to identify and document the most widely used strategies for the recruitment, retention, and placement of students in vocational education programs not traditional for their sex. Exhibit 1 provides a summary of their findings. Exhibit 2 provides additional retention strategies as developed by a practitioner (Lydiard, 1984).

In Illinois, Indiana, and Wisconsin, efforts to prepare women for nontraditional jobs were an important program component (Wider Opportunities for Women, 1988). Diverse strategies were employed by the states to train women for specific nontraditional occupations, to encourage girls to explore nontraditional careers, to link women to nontraditional role models, to promote linkages with business and industry, and to prepare women to enter apprenticeship programs. Training programs covered a wide range of occupations, including (but not limited to) electromechanical technology, automated manufacturing, electronics technology, and nuclear industry training.

Illinois has used minigrants to set up resource centers, activities to promote awareness of careers in nontraditional employment, nontraditional career fairs, sex equity recruitment posters, peer counseling, seminars, and inservice activities (Cluck, Stitt, & Perreault, 1986). For example, Nash School in Chicago is teaching eighth-grade students about nontraditional career roles in a car dealership, and the Chicago High School for Agricultural Sciences is actively recruiting female minority

Exhibit 1

Most Widely Used Strategies in Providing Programs for Nontraditional Vocational Education Options

Recruitment Strategies

Use of role models
Parental involvement
Prevocational classes and workshops
Community involvement
Active encouragement of prospective students
Publicity/promotional activities
Use of sex-fair media and informational materials
Inservice training of teachers

Retention Strategies

Student support groups
Explicit support of teachers and counselors
Personnel training and awareness training
Unbiased language in the classroom
Placing nontraditional students in the same class

Occupational Placement Strategies

Workshops for employers
Student training
Publicity and promotional activities

Source: Kouzekanani, Kamiar, and Knight, James A. (1983). Paper presented at the American Vocational Association Convention, December 4, Anaheim, CA. ED 237 758

Exhibit 2

Strategies for Retaining Nontraditional Students

1. Cluster students, avoid having only one non-traditional student in a class.

2. Give extra help in areas where the nontraditional student is not likely to have had as much exposure as the traditional student. (For example--a girl in auto mechanics may not have had as much exposure to automobiles while growing up as the boys and may not be as familiar with the shop terminology. She would hesitate to ask questions for fear of being ridiculed by the boys. It's important for the shop teacher to make sure the student is not getting lost. Help sessions should be held with students separately rather than slowing up the class.)

3. Don't isolate or single out in any way the nontraditional student.

4. Don't tell dirty jokes or allow them to be told, and watch out for sexual harassment in the guise of "kidding around."

5. If tensions arise, encourage students to talk about them in the open.

6. Don't be patronizing, overprotective, or "chivalrous", and don't grant special favors to nontraditional students. Show girls how to lift rather than lifting things for them, require that they learn to use all of the equipment and give them projects that are as challenging as the ones the boys undertake.

7. Don't allow boys to use bad language, but not girls--no one should be allowed to use bad language in the shop.

8. Establish support groups for nontraditional students.

9. Give strong encouragement: "You can do it." "You're doing well, try it."

10 Be alert to the fact that the traditional students sometimes look upon the non-traditional students as "threats." They sabotage tools and projects, purposely tell dirty jokes or use bad language in front of nontraditional students to make them feel uncomfortable, and sometimes withhold information or help they would normally give another student.

11. Be sure that students of both sexes receive the same course content, the same learning activities, and the same projects. The same grading system should be used for all students.

12. Use gender-free terms and occupational titles (drafter, machinist, etc.). There is no such thing (in the eyes of students) as a generic "he."

13. Discuss sex stereotyping and discrimination as part of the regular course content. Involve students in identifying examples of bias and stereotyping in textbooks, job descriptions, job application forms, etc.

14. Help students identify sex stereotyping/discrimination in their daily lives.

15. Invite role models (people doing nontraditional work) to visit the shop and talk with students (unions can be helpful in identifying these individuals).

16. Encourage students to tell you (anonymously) about any stereotyping/bias/discrimination they feel is occurring in your shop.

Note: From unpublished material by Beverly Lydiard, Minuteman Tech, 758 Harrett Rd., Lexington, MA 02173.

students to this traditionally white, male-dominated field (agriculture).

Louisiana has provided training to women in commercial trucking, air-conditioning repair, and auto mechanics. California has been successful in encouraging young Hispanic women to enter nontraditional training. Georgia has developed effective recruitment strategies for nontraditional students (National Coalition, 1988).

Arizona provided an inservice program for 70 vocational counselors to create awareness of sex role socialization and sex bias in occupational opportunities, to acquaint the counselors with the recruiting needs of business and the current problems related to meeting affirmative action goals, and to help counselors recruit students into nontraditional vocational education programs (Metha, Rader, & Rodgers, 1983). Counselors also participated in a "mini-internship" in a nontraditional or emerging occupation.

Resources for developing sex equity programs. Listed below are a range of resources that can be used by administrators, teachers, counselors, teacher educators, and other vocational education practitioners. Some of the resources provide guidelines for setting up, carrying out, and evaluating a program. Others provide specific curriculum units at either the secondary or postsecondary level.

Calabrese, Anthony; Comp., and others. (Comp.). (1984). Rainbow shave ice, crackseed, and other ono stuff. Sex equity goodies for the classroom. Equal goals in occupations project. Honolulu: Hawaii State Department of Education, Office of the Director for Vocational Education. (ED 244 133)

Education Service Center Region 2. (1984). Forum for change. An articulation workshop for secondary and post-secondary educators to promote equal access in vocational education. Corpus Christi, TX: Education Service Center Region 2. (ED 259 107)

Ellis, Michael O. (1986). Indiana guide to sex equity in vocational education. Bloomington: Indiana University, Vocational Education Services. (ED 276 864)

Far West Laboratory for Educational Research and Development. (1983). Overcoming barriers for displaced homemakers in nontraditional occupations. A manual of strategies. San Francisco: Far West Lab. (ED 263 465)

Forbes Road East Area Vocational Technical School. (1986). Nontraditional career awareness. Monroeville, PA: Forbes Road East Area Vocational Technical School. (ED 283 954)

Hollenback, Kathryn. (1985b). Education and employment. A handbook to promote sex equity. Pueblo, CO: Pueblo Community College. (ED 265 385)

Martin, Joan. (1986). Partners in work, Creative non-traditional coloring book for children in child care programs. Bowling Green: Western Kentucky University, Center for Career and Vocational Teacher Education. (ED 279 903)

Michigan State Department of Education. (1985). Including sex equity in career education programs: A list of ideas for school buildings. Lansing: Michigan State Department of Education, Office for Sex Equity. (ED 276 818)

National Child Labor Committee. (1984). Why not me? Women in non-traditional jobs. The workforce series for small businesses. New York: National Child Labor Committee. (ED 282 103)

New Hampshire State Department of Education. (1985). Retention of students in vocational programs. A sourcebook of strategies for high school educators. Concord: New Hampshire State Department of Education, Division of Instructional Services. (ED 257 963)

Rosales, Mary Lou, & Smith, Armenia. (1984). Developing a mentor-protege program. Job-visitation activity. El Paso, TX: Ysleta Independent School District. (ED 256 947)

Ross, Eva, & Smith, Armenia. (1984). *Developing a role-model index. A guide book*. El Paso, TX: Ysleta Independent School District. (ED 256 947)

Sanders, Jo Shuchat. (1986). *The nuts and bolts of NTO: How to help women enter non-traditional occupations* (2nd ed.). Metuchen, NJ: Scarecrow Press.

Smith, Armenia. (1984a). *Linking education and industry in preparing students for nontraditional jobs. Project model*. El Paso, TX: Ysleta Independent School District. (ED 256 949)

Smith, Armenia. (1984b). *Sex Equity. Keeping the drive alive: A guide to promoting sex equity in your school district*. El Paso, TX: Ysleta Independent School District. (ED 269 607)

Stitt, Beverly A., with Erekson, Thomas L., Hofstrand, Richard K., Loepp, Franzie L., Minor, Carole W., Perreault, Heidi R., & Savage, John G. (1988). *Building gender fairness in schools*. Carbondale: Southern Illinois University Press.

Women's Bureau. (1985). *The coal employment project--How women can make breakthroughs into nontraditional industries*. Washington, DC: Women's Bureau, U.S. Department of Labor. (ED 271 601)

Wysong, H. Eugene. (1986). *Breaking the chain of stereotyping. Building student awareness of the effects of sex-role stereotyping (Grades 7-12)*. Columbus: Ohio State Department of Education, Division of Vocational and Career Education. (ED 275 886)

Outcomes of Programs for Increasing Nontraditional Options

Results of programs at the secondary level will be discussed first. This discussion will be followed by discussion of postsecondary programs. The section will conclude with information from follow-up studies.

Secondary-level programs. Short-term programs (videotape, one class, a two-week class, etc.) tend to be well received and positively evaluated by the participants, but do not seem to lead to higher enrollments in nontraditional programs or courses (Abdo, 1984; Andrews, 1984; Brooks, Holahan, & Galligan, 1985; Cini, & Baker, 1987; Grajales, 1987; Hawaii State Department of Education, 1984; Jones, 1983; Packard, 1986; Savenye, Sullivan, Beyard, & Haas, 1986; Schmidt, 1987). As summarized by Savenye et al. (1986), more comprehensive programs appear necessary to increase the probability of changes in interest and confidence of success in nontraditional careers.

Postsecondary programs. Several postsecondary schools have taken the lead in developing specific nontraditional training programs for women. Northern Arizona University developed a program in building maintenance (Simpson, 1986); Santa Fe Community College in Gainesville, Florida, developed a program to prepare fire extinguisher maintenance specialists (Bromley, Lanza-Kadnee and Motz, 1984); Northern Illinois University has been working with the Westinghouse Nuclear Training Center to develop an industry/education partnership to encourage women to train for jobs in the nuclear industry (Roth, 1987); and Corning Community College has a program for encouraging women to enter technological fields in which they have historically been underrepresented (Herman, Gifford, & Weeks, 1984).

Longer term programs at community colleges have had the following results. The Daytona Beach Community College Career Advancement Training (CAT) project was effective in establishing a mentor network, increasing the number of women completers in nontraditional vocational-technical fields, increasing female enrollment in nontraditional programs by an average of 22.4%, and increasing the number of employers considering and employing women in nontraditional jobs (Sparks, 1984).

As a result of a Brevard Community College project, 33 women were placed in training at the college, 59 were placed in jobs, and 23 persons were placed in Women's Education Development Incentive classes (Brevard Community College, 1983).

Follow-up studies. Outcome findings based on analyses of national longitudinal databases are based on women who were enrolled in traditionally female vocational education programs. There typically are not enough women with vocational education in the traditionally male programs in the national databases to conduct analyses on the outcomes of such training.

Two follow-up studies of women and men enrolled in nontraditional programs in Oklahoma (Hargrave, Frazier, & Thomas, 1983; Smith, 1982) found that women who were working in nontraditional occupations earned significantly higher wages than women employed in traditionally female occupations, although they earned significantly lower wages than men employed in those occupations. Smith found that negative effects (unemployment, working in jobs unrelated to training) were least pronounced for those women nontraditional students trained in urban areas, those trained in area vo-tech schools, and those over 24 years of age.

Kendall (1983) found that unemployment was higher for nontraditional completers of vocational education programs in West Virginia (both men and women) than for those who had completed traditional programs. This may be due to the rural character of

West Virginia. She also found that more traditional than nontraditional completers would choose the same program again.

Critique of Available Research

The available research is very much focused on the recruitment of students into nontraditional programs. Much less information is available on the retention of students through the program and even less information is available on the placement of students in jobs.

It would be helpful to those who are interested in working in this area if the U.S. Department of Education would provide a definition of "nontraditional" programs. This would provide a standard definition that could be used by vocational educators in their work.

It seems apparent that short-term, one-shot programs to increase nontraditional enrollment are not successful. Longer term programs seem to be more successful. However, the National Coalition for Women and Girls in Education (1988) found that in states where funds are allocated on a formula basis rather than through a request for proposal (RFP) process, the amount of funds received by a district or institution is often so small that it is not possible to implement special programming. Further, there are often minimal or no requirements to structure appropriate programs or services.

As long as such practices are permitted, funds that should provide services for encouraging nontraditional options are not, in fact, doing so. Further national studies (such as that of the coalition) would point out the negative effects of such practices.

Finally, with no current national statistics on vocational education enrollment available, it is not possible to determine whether the sex equity program has made a difference. Some national effort must be made to document enrollment figures.

Recommendations

Based on available knowledge, it seems apparent that short-term sex equity programs are being positively evaluated by students and educational personnel, but that not much change in enrollment statistics is being generated. Longer term programs are much more effective. Given this situation, it is recommended that the 3.5% set-aside for such programs be continued in the vocational education legislation, with specific longer term programs being recommended in the Final Regulations.

As with the single parents and homemakers program, it is recommended that the states be required to distribute the 3.5% set-aside funds on a RFP basis and that specific guidelines for determining the effectiveness of the programs be issued by the state.

Based on the fact that additional information is needed, the following recommendations are made:

- Current national statistics of enrollments of women and men should be obtained, perhaps through collating the information from the reports required of the state sex equity coordinators

- Follow-up studies of nontraditional program participants be encouraged to determine how these students are faring in today's labor market
- Define a "nontraditional" program at the federal level in order to simplify comparison of research across studies.

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SINGLE PARENTS AND HOMEMAKERS

Louise Vetter

The Perkins Act and the *Final Regulations* for the act prescribe that 8.5% of the Vocational Education Opportunities Program funds be reserved for individuals who are single parents or homemakers (Section 401.92). Five uses of the funds are prescribed in the *Final Regulations*.

Funds may be used *only* to:

a. Provide, subsidize, reimburse, or pay for vocational education and training activities, including basic literacy instruction and necessary educational materials, that will give single parents or homemakers marketable skills;

b. Make subgrants to eligible recipients (local educational agency or postsecondary educational institution) for expanding vocational education services where this expansion directly increases the eligible recipients' capacity for providing single parents or homemakers with marketable skills;

c. Make subgrants to community-based organizations (CBOs) for the provision of education services to single parents or homemakers, if the State determines that a CBO has demonstrated effectiveness in providing comparable or related services to single parents or homemakers, taking into account the demonstrated performance of such an organization in terms of the cost and quality of its training and the characteristics of the participants;

d. Make vocational education and training programs more accessible to single parents or homemakers by assisting them with child care or transportation services or by organizing and scheduling those programs so that they are more accessible; or

e. Provide information to single parents or homemakers to inform them of vocational education programs and related support services. (Section 401.55, *Final Regulations*)

Some, but not necessarily all, of the five uses listed should be present in each program. Cooperative and apprenticeship programs may be funded if the programs are for single parents and homemakers.

States may require cost sharing (by eligible recipients) for single parent and homemaker programs. If a state chooses to do so, the requirement must be identified as a state requirement, not a federal requirement.

Definitions

A range of definitions have been used to identify the people who should be included in programs such as the "single parent and homemaker" programs. The Final Regulations of the Perkins Act prescribes the following definitions (Section 401.92):

- Single parent--an individual who (1) is unmarried or legally separated from a spouse; and (2) has a minor child or children for which the parent has either custody or joint custody.
- Homemaker--an individual who (1) is an adult; and (2) has worked as an adult primarily without remuneration to care for the home and family, and for that reason has diminished marketable skills.

As can be seen from these definitions, both women and men could qualify for participation in the programs. However, the vast majority of people who meet these definitions are women, as will be discussed later in this chapter.

Federal Job Training Partnership Act (JTPA) legislation uses the term "displaced homemakers" twice, but does not specify levels of funding for programs or definitions. Such decisions are left to the state coordinating councils and the local private industry councils (PICs). For example, JTP-Ohio uses the following definitions:

- Displaced homemaker--an individual who: (1) was a full-time homemaker for a substantial number of years (five or more); and (2) derived the substantial share of his or her support (more than 50%) from: a. A spouse and no longer receives such support due to the death, divorce, permanent disability, or permanent separation from the spouse; or b. public assistance on account of dependents in the home and no longer receives such support.

- Single head of household--a single, abandoned, separated, divorced or widowed individual who has responsibility for one or more dependent children under age 18.

The Office of Technology (OTA) of the U.S. Congress pointed out in 1986 that definitions of displaced homemakers vary from one state and federal law to another, with little consistency in eligibility for program services. OTA then went on to provide the following definition:

- Displaced homemakers--women who:

  -- are between the ages of 35 and 64; and are divorced, widowed, or separated; or

  -- are married but the husband is absent, seriously disabled, or long-term unemployed; or

  -- are losing public assistance income from sources such as Aid to Families with Dependent Children (AFDC), when the youngest child reaches the age where dependent care ceases; and

  -- have had serious employment problems including unemployment, working part time but preferring full time, working at pay below the minimum wage, or dropping out of the labor force from discouragement.

An example of a definition included in state legislation can be found in Sub House Bill No. 794, Section 3354.19, of the Ohio Revised Code. The definition is as follows:

- Displaced Homemaker--one who a) is 27 years of age or older; b) has worked without pay as a homemaker for his or her family; c) is not gainfully employed and has had, or would be likely to have, difficulty in securing employment; and d) has either been deprived of the support of a person who he or she was dependent on, or has become ineligible for public assistance as the parent of a needy child.

While the previous federal vocational education legislation (Education Amendments of 1976) included requirements for displaced homemaker programs, no provisions for single parents were included and no expenditure level was specified for displaced homemaker programs. Thus, it becomes necessary for those interested to research the specific legislation under which a program can be proposed for funding or under which a program is operating in order to know the people to whom services can be offered. Two pieces of federal legislation, the welfare reform bill (Family Support Act of 1988) and the 1988 Economic Dislocation and Worker Adjustment Assistance Act also will provide opportunities for vocational education programming.

Group Descriptions

As can be seen from the definitions, a wide variety of people are included in the single parent and homemaker groups. Displaced homemakers may or may not be single parents. OTA (1986) found that over 60% of displaced homemakers had children living at home. Single parents may or may not be displaced homemakers. Most discussions of single parents focus either on secondary school age single parents (often referred to as teen parents) or on older single parents. Discussions of older single parents often focus on those parents who are on public assistance, although all single parents over the age of 20 are certainly not on public assistance.

Displaced Homemakers

Estimates of the number of displaced homemakers in the United States range from more than 2 million to about 4 million. OTA (1986) found a 28% increase in the number of displaced homemakers, from 1.7 million in 1975 to 2.2 million in 1983, and indicated that these numbers were probably low.

Divorce, separation, or desertion accounts for much of the increase in the population of displaced homemakers since 1975. By 1983, nearly half of displaced homemakers were in this category. Most of the families were small; only about 20% of displaced homemakers lived in families of four or more.

Even with small families, many displaced homemakers live in or near poverty. In 1982-83, nearly half had family incomes below $10,000. Female-headed families are five times more likely to be below the poverty level than two-parent families (Sidel, 1986).

Teenage Parents

Over half a million teenagers have babies every year. According to data from the Bureau of Census (U.S. Department of Commerce, 1984), there were five times more live births to unmarried women in 1981 than in 1950. Specifically, the birth rate for unmarried mothers under 15 years of age was almost three times higher and for unmarried mothers 15-19 years of age almost five times higher. According to one projection (Alan Guttmacher Institute, 1984), unless current behavior changes, nearly 40%

of all teens aged 14 in 1981 will become pregnant before reaching the age of 20.

A growing number of these young mothers remain unmarried and head their own households. Forty percent of the young women who drop out of school do so because of pregnancy (Earle & Roach, with Fraser, 1987) and 25% of teenage mothers, as well as 75% of high school women who marry and have a child, drop out of school (Center for Population Options, cited in Bitters, (1988). This low educational attainment then leads to poor paying jobs or welfare and the dependency on financial aid is costly to federal, state, and local governments.

Problems of Groups

There are many similarities in the problems of displaced homemakers and teen parents. The basic problem is the need to be self-supporting and to support others where previously they have been supported by others (parents, spouses). Teen mothers and displaced homemakers epitomize the "feminization of poverty" that has occurred over the past 8 years.

Household income is low. Only about 15% of displaced homemakers receive alimony or child support (Vanski, Nightingale, & O'Brien, 1983). By definition, displaced homemakers are not employed.

Lack of education and training is a major problem for teen mothers as reflected in the dropout statistics cited earlier. Prior to the 1970s, few schools offered educational opportunities for pregnant teenagers. Now, because of Title IX (banning discrimination on the basis of sex in education programs receiving federal financial assistance), these teens cannot be excluded from school. However, a major problem still remains; who will care for the child when the mother is in school?

For displaced homemakers, education and training may be at a higher level than that of the teenage mothers. However, by definition, displaced homemakers have been out of the labor force for a period of time so that skills obtained earlier in their lives may be too dated to be of much use in obtaining employment.

A far greater problem for the displaced homemaker is the lack of self-esteem that can be generated by the breakup of a marriage. Complicating the situation is the lack of public recognition provided for the skills learned through homemaking and volunteer work.

A further problem area for both displaced homemakers and teen mothers is the bewildering bureaucracy that must be faced in order to obtain assistance. In addition to the education system (secondary and postsecondary), it is probably necessary to interact with the court (legal) system, health care system, public assistance system, housing system, and financial system.

The identification and acknowledgement of these problems and others (lack of transportation, lack of work experience) led to the inclusion of funds for programs for single parents and homemakers in the Perkins Vocational Education Act. Much of the impetus for the program came from advocacy groups for women and children rather than from vocational educators. However, the exception to that was the Vocational Education Equity Council, a subsection of the American Vocational Association, whose members strongly supported the need for the inclusion of such a program in the law.

Review of Research Literature

The program outcomes literature reviewed here was identified through searches of computerized databases extending from 1983 to August 1988. Searches were conducted in the ERIC database, Dissertation Abstracts, and social science databases.

Exemplary Models

Exhibit 1 provides a description of the comprehensive services needed by displaced homemakers. Developed by the Displaced Homemakers Network, it is an ideal to be worked toward. Job placement should always be viewed as the ultimate goal of program services. The National Leadership Development Conference of the State Sex Equity Coordinators identified the same program components and services and added the component of "follow-up" to the list (Vetter & Richey, 1985).

Quite obviously, the same services are needed by teen mothers, with the additional need for completing the high school diploma. Comprehensive programs for teen parents are described in Exhibit 2. The problem of coordination of services arises whether the program is provided by a social service agency or an educational agency.

Bitters (1988) identifies the skills needed by teen parents as follows:

Exhibit 1

Comprehensive Services to Displaced Homemakers: A Policy Statement by the Displaced Homemakers Network

The Displaced Homemakers Network believes that a comprehensive displaced homemaker program provides or secures the following component services that have been identified as meeting the unique needs of displaced homemakers. While every program may not have all of these components, it is an ideal to be worked toward. Job placement is a top priority and ultimate goal of program services:

- **Outreach.** Adequate outreach that specifically targets displaced homemakers, and is matched to the racial/ethnic/age distribution of the displaced homemakers in the geographic area being served; in rural areas, may require itinerant programming (periodic delivery of services to displaced homemaker in remote, scattered areas).
- **Intake/Orientation.** Procedures that recognize the lack of confidence common to displaced homemakers and the need for an immediate positive experience; orientation procedures that provide displaced homemakers with an introduction to the program and especially to other participants.
- **Personal Counseling.** Individual personal counseling, guided support groups, crisis intervention services, ongoing counseling both on a regular and as-needed basis, and appropriate referrals to mental health professionals and alcohol/drug abuse programs.
- **Assessment and Testing.** A balanced use of interest inventories, skill testing, work samples, educational assessments, employability development plans, and other instruments and activities useful to adult women, with an emphasis on self-assessment and personal decisionmaking, and the identification and transfer of skills developed in homemaking, child-rearing, and volunteer work to the paid labor force.
- **Career/Educational Counseling.** Activities and resources presenting a broad range of career and educational options in the context of local labor market data, and including information about nontraditional jobs, vocational training, basic education, high school equivalency, financial aid, and short-term as well as traditional programs.
- **Life Skill Development.** Workshops on assertiveness training, single parenting, short- and long-range planning and goal setting, financial management, dressing for the labor force, health concerns of mature women, and other requested topics.
- **Skills Training.** Access to skills training programs (including classroom training, internships, and on-the-job training) in both traditional and nontraditional areas.
- **Pre-Employment Preparation.** Activities to prepare for finding and keeping a job, such as preparing a resume, filling out job applications, taking tests, handling interviews, and negotiating salary; discussions of rights and responsibilities on the job.
- **Supportive Services.** Needed services such as stipends, transportation allowances, books, arrangements for child care, emergency loan fund, clothes, tuition, equipment, and tutoring.
- **Referrals.** Initial referrals and follow-up advocacy for such services as legal aid, health care, housing, debt management, and vocational rehabilitation.
- **Job Development/Placement.** Outreach to potential employers, advocacy with employment services, direct program placement, guided job clubs, assisted self-placement; adequate follow-up and continued support.
- **Program Management.** Staffing that reflects the racial/ethnic composition of the geographic area served and that includes former displaced homemakers at all levels; appropriate management information systems that include up-to-date client files and monthly compilation of data on client characteristics and program results; public information activities to educate potential employers and the general public on displaced homemakers' needs and skills; appropriate linkages with other agencies; and fiscal accountability.

Note. Office of Technology Assessment, U.S. Congress. (1986). Technology and Structural Unemployment: Reemploying Displaced Adults. Washington, DC: GPO, p. 431.

Exhibit 2

Comprehensive Programs for Teen Parents

Specific Components

- Outreach and recruitment to identify dropouts and get them back into school
- Intake and orientation
- Personal counseling to assess personal needs
- Assessment and testing of skills, aptitudes, and interests
- Career and vocational counseling including work experience
- Life skills development including parenting and nutrition
- Basic skills including study skills to help them pursue further education or begin employment
- Preemployment preparation including employability skills
- Job development and placement including mentoring and job shadowing
- Follow-up

Support Services

- Child care
- Transportation
- Networking
- Referral to community services and agencies

Note. Lindner, A. Frances. (1988). Vocational education: Empowering teen parents. Wisconsin Vocational Education, 12(3), 9.

- Responsible decision making
- Problem-solving
- Networking
- Building support systems
- Enhancing interpersonal communication and relationships
- Neutralizing gender role stereotypes
- Increasing school success
- Exploring the entire range of career options
- Increasing self-esteem
- Avoiding victimization
- Preparing for economic self-sufficiency

Examples of successful programs tailored for specific single parent audiences were identified by Burge (1987). They include (1) high school dropout prevention programs that give pregnant teens and teen parents the special support they need to stay in school; (2) established sites (e.g., area vocational schools and community colleges) that can provide special services for nontraditional adult students; (3) support and referral networks linking a variety of community agencies and services; and (4) newsletters, an effective and inexpensive strategy for communicating with, educating, and supporting single parents.

Ohio provides two programs for pregnant students and young parents. The GRADS (Graduation, Reality, and Dual Role Skills) program is an in-school program, offered through home economics, to help students stay in school, provide knowledge and skills related to child development and positive parenting practices, help students obtain health care, provide an orientation to the world of work and the community, and encourage students to set goals related to balancing the dual role of employee and parent. The GOALS (Graduation, Occupation, and Living Skills) program provides similar services for young single parents aged 18-25 who dropped out of school because of parenting responsibilities (Wiberg & Mayor, 1985).

A study of the GRADS programs (Hill & Bragg, 1985) that provided day care for teenage mothers indicated the following. Generally, the students with children in day care were Black, single women between 16 and 18 years old who were enrolled in grades 11 and 12, were participating in a home economics course, and were informed about day care by a teacher. These teenagers usually had one child between 1 and 12 months of age.

Compared to other teenage mothers at the schools, nearly three-fourths of the students who had children in day care completed courses or graduated, whereas only two-fifths of the other mothers who did not have day care completed courses or graduated. Thus, one necessary component of a model program for teenage mothers would appear to be the availability of day care.

Child care is provided in Howard County, Maryland, where children of students who would otherwise drop out of school are being cared for at the county's vocational-technical center. The child care is provided by students who are preparing for careers in the child care field (Wiberg & Mayor, 1985).

California has established a high school to serve the special needs of pregnant and parenting teens, providing counseling, on-site child care and life skills training among other services; a

New York program encourages pregnant and parenting teens to finish school while providing them with marketable skills (National Coalition for Women and Girls in Education, 1988).

In addition to the Perkins funding for single parents, Wisconsin has recently passed two state laws, School Age Parent Programs, and Children at Risk, that will assist in serving teen parents until they graduate from high school (Bitters, 1988). Programs funded in Wisconsin under the Perkins Act have been very successful in helping teen parents stay in school, providing career and vocational education, and meeting the special psychosocial needs of the students (Lindner, 1988).

Resources for developing displaced homemaker programs. The following listing identifies manuals for developing displaced homemaker programs. Included in the manuals are suggestions for hiring staff, organizing an advisory committee, recruiting participants, developing intake and record-keeping systems, designing an evaluation plan, and program components.

Dahlberg, Maurine. (1983a). *A manual for post-secondary displaced homemaker programs*. Killeen Central Texas College. (ED 231 957)

Dahlberg, Maurine. (1983b). *A workshop guide for post-secondary displaced homemaker programs*. Killeen Central Texas College. (ED 231 956)

Far West Laboratory for Educational Research and Development. (1983). *Overcoming barriers for displaced homemakers in nontraditional occupations: A manual of strategies*. San Francisco: Author. (ED 263 465)

Gallagher, Egle V., & Wilder, Dee. (1986). *Development of a resource/management guide for displaced homemaker personnel*. Paper presented at the annual conference of the National Council of States on Inservice Education, Louisville, KY, November 21-25. (ED 277 824)

Gorton, Carolyn. (1987). *ENCORE. A pilot project to prepare single parents/homemakers for the job market*. Port Charlotte, FL: Charlotte County Vocational Technical Center. (ED 285 046)

Lutheran Social Mission Society. (1986). *Building a better you. Final report, 1985-86 and classroom activities, 1985-86*. Philadelphia: Author. Lutheran Settlement House. (ED 279 891)

Nelson, Katharine. (1983). *Expanding new horizons training manual*. Redwood City, CA: Canada College. (ED 244 078)

Utah State Office of Education, Division of Vocational Education. (1987). *Single parent or displaced homemaker program management guide*. Salt Lake City: Author. (ED 283 955)

Resources for displaced homemakers. The following materials are intended for use by the displaced homemakers themselves:

Bingham, Mary, Stryker, Sandy, & Edmondson, Judy. (1987). *Changes: A woman's journal for self-awareness and personal planning*. Santa Barbara, CA: Girls Club of Santa Barbara.

Displaced Homemakers Network. (1985). *Displaced homemaker's guide to the Carl Perkins Vocational Education Act of 1984*. Washington, DC: Author. (ED 266 287)

Gray, Fredrica. (1984). *Crossing bridges: A guide for displaced homemakers and other women in transition*. Hartford: Connecticut Permanent Commission on the Status of Women.

Resources for teen parents. Warren (1987) has prepared an independent study curriculum guide for pregnant and parenting teens called *You Can Help*. An 18-minute video, "It Only Takes Once" (Davison, 1987), emphasizes the importance of making responsible sexual choices. Staff inservice materials on meeting the health, education, financial, and child care needs of teen parents are available through the High/Scope Foundation (1986).

Outcomes of Single Parent and Homemaker Programs

In 1986, the Office of Technology Assessment stated that systematic evaluations of displaced homemaker programs (some over 10 years old) do not exist. At that time, even noncomparative reports on outcomes of individual projects were scarce.

Additionally, the Perkins Act does not contain specific reporting requirements about single parents and homemakers. However, in April 1985, the National Leadership Development Conference of the State Sex Equity Coordinators identified the data needed by each state (Vetter & Richey, 1985). They determined that the information needed from program participants is the following:

- Age
- Race
- Sex
- Disability
- Marital status
- Number and age(s) of children
- Educational level
- Financial status (before and after services)
- Work history

Although questions have been raised about the legality of requesting information on the marital and family status of individuals, Appendix A of the Final Regulations for the Perkins Act indicates that states have been authorized to make reasonable inquiries in order to establish eligibility for programs.

Outcomes of individual projects. Information from a range of single parent and homemaker projects in Florida became available in 1987. Summaries of the outcomes are as follows:

- Of 31 students recruited into a single parent and homemaker program for training as nursing assistants, 28 completed the program and were placed in health care jobs. (Hernando County School Board, 1987)

- Two-week courses and 1-day workshops (training, counseling, and placement services) were provided for displaced homemakers at Valencia Community College. The program had a 94% completion rate of those completing the 2-week program with 48% of the completers obtaining jobs. Of these, 20% (12 people) were placed in nontraditional high-wage areas. Sixteen people entered and completed vocational training and are currently employed, and nine people are enrolled in degree-seeking programs. (Fisher & Poitier, 1987)

- Twenty-one single parents/displaced homemakers, who were in need of tutorial services to bring them to an educational level required for satisfactory job placement, earned high school credits or raised their literacy level in adult basic education and increased their awareness of educational and employment possibilities. (Jackson County Adult Education Center, 1987)

- An Individualized Career Oriented Program for Equity (I.C.O.P.E.) for single parents or homemakers provided 2-week programs. Of the 79 participants, 55% either became employed or entered into job training or college courses. Pre- and post-self-assessments indicated an observable improvement in self-confidence, ability to communicate, interview skills, problem solving, creativity, time management, and networking. (Central Florida Community College, 1987)

- A program to provide counseling support, career planning assistance, and support services (child care, transportation, tuition, tutoring, and books and tools) to single parents and homemakers served 120 people. Sixty-six students enrolled in training, with two completing the training and being placed in jobs related to the training. Initial data indicated that the services provided significantly increased ability to continue in training. Approximately 83% of the participants who enrolled in training stayed in the program and are achieving satisfactory progress. (Pinellas Vocational Technical Institute, 1987)

- Of the 72 displaced homemaker/single parent students served by the Indian River Community College program, 42 students continued training and 17 have been placed in training-related employment. (Williams, 1987)

Data are available from two programs in Illinois. William Rainey Harper College conducted a follow-up study of 500 women who had participated in the Women's Program in 1983 and 194 women who had taken part in Project Turning Point from 1979 through 1981 (Trevor & Lucas, 1986). Study findings, based on a 65% response rate to a mailed survey, included the following:

- Of the participants in the Women's Program, 48.5% indicated that the program had increased their confidence, 43.5% reported an increase in self-awareness, and 39% felt more aware of other people.
- The major factors influencing women to participate in Project Turning Point were recommendations by friends and relatives (30%), the program brochure (21%), and a newspaper article (13%).
- The most frequently mentioned outcome of participation in the project was employment, followed by continued education and support/help with a difficult problem.

A study of a planning delivery system for providing marketable skills and supportive services for rural single parents and homemakers (Duff, Wood-Bennett, Eisenstein, Lugenbeel, and Shupe, 1987) provided the following data. Twenty-two participants (ranging in age from 18-38, including four teenage parents) received assistance with training programs; support services for tuition, transportation, child care, and counseling; and networking. The participants often lacked parenting skills and self-confidence and needed much assistance in defining career goals, registering for training programs, and attending the programs. They also needed assistance in budgeting and nutrition. Following a year's field test, about half of the participants had persisted in their training programs and were on the way to becoming self-supporting. Others had dropped out because of personal problems or a lack of motivation. Project staff recommended that the collaborative support services be continued in order to assist single parents/homemakers to cope with the bureaucracy and receive training and supportive services.

In Bloomington, Indiana, a tri-county displaced homemaker project provided a job-seeking course and individual counseling (Bloomington Department of Human Resources, 1983). As a result of these services, 90 participants found employment and 37 were enrolled in training or education programs. A job developer was instrumental in assisting participants to find employment; 77 of the 90 were assisted by the job developer.

Heatherly and Cox (1985) conducted a follow-up study of 30 displaced homemakers who had participated in the Jefferson County, Kentucky program for displaced homemakers. Procedures used in the study included personal interview and paper-and-pencil responses. All 30 displaced homemakers felt their situations were much improved since entry into the program, but problems remained. Most first jobs were low paying with difficult working hours and few benefits. Many participants had one or two jobs that had not worked out. During the first year on the job, the displaced homemakers commonly felt insecure. Respondents recommended that program activities be expanded to include communication skills and self-image building, as they felt that the emotional support and encouragement supplied through interactions in classes and in other program activities were vital in establishing self-confidence.

The Urban Job Center for Women and Parent Outreach Center in New Brunswick, New Jersey, has enabled 239 clients to attain job readiness. Eighty-five percent of these clients are now working (Middlesex County Vocational and Technical High Schools, 1986).

The PROBE (Potential Reentry Opportunities in Business and Education) counseling and referral system was begun in 1975 on the campus of Pennsylvania State University (Towns, Brennan, Acri, & Crossan, 1987). In 1977, it became a community-based program offering counseling and an intensive job-readiness group program. For the past 10 years, PROBE has had a success rate of more than 85%.

State-wide evaluations. Pennsylvania assessed the impact of 21 displaced homemaker programs funded through the Education Amendments of 1976 (Pittsburgh University, 1984). Data were collected through proposal and report reviews, on-site visits, interviews, and mailed questionnaires. Programs were operated from 1979 through 1982. Results of the evaluation were as follows:

- Counseling and skill preparation services resulted in educational and/or career placements for 93% of the target population.
- Of participants who returned questionnaires, 47% rated their programs excellent; 25%, very good; and only 3%, poor.
- The average per-client expenditure was $271.

Utah evaluated six programs in order to develop a statewide record-keeping system, to describe the nature of the client population, to describe the nature of the services offered, and to summarize the effect on clients' lives (Osguthorpe et al., 1986). On-site observations were made and follow-up surveys sampled program participants after 6 months. It was found that clients received primarily an intensive preemployment course as the core service. The course also helped women develop an informal support group. From the data gathered, it was concluded that the services provided by the centers were viewed as effective and appropriate by both clients and outside observers. Many participants found employment or enrolled in vocational training. Twenty-four percent remained unemployed after the program.

The Ohio Displaced Homemaker Network (ODHN) (Bartunek, undated) reports preliminary data from nine displaced homemaker programs, using a pre- and posttest design. A self-assessment instrument, Notes on Myself, includes 30 items on personal or situational barriers and personal, social, and financial resources. A person with no problems and many resources could score as low as 30; a person with many problems and few resources could score as high as 150. The lower the score, the better the individual's circumstances. Preliminary findings showed that the most intensive programs showed the highest percentage of graduates with improved situations. The two most intensive programs were the only programs in which all graduates showed improvement. The ODHN invites other programs to be further field test sites for the instrument.

JTPA evaluations. The Center for National Policy Review (1985) analyzed state JTPA plans from the perspective of women's needs and suggested that there were serious deficiencies in JTPA's performance for women. Spero (1985) reported on the Displaced Homemakers Network survey of 425 programs to determine the extent and nature of services to displaced homemakers under JTPA. Key findings were the following:

- A total of 61 programs (about one-third of the 40% who responded to the survey) had 80 JTPA contracts.
- Typical JTPA projects enroll 1 to 20 displaced homemakers.
- A wide range of services were being provided by projects serving displaced homemakers, with the greatest concentration in preemployment activities and vocational training.
- More than half of the 80 contracts made provisions for supportive services (child care and transportation costs).
- Vocational training tended to be in three areas: clerical, health care, and nontraditional occupations.
- The 10% window for serving persons who face barriers to employment was being used to enroll displaced homemakers.
- The two reasons most frequently cited for not having a JTPA contract were that information was lacking and that homemakers were not a targeted population.
- Knowledge of and involvement in the local JTPA scene was positively related to having a contract.

Teen parent program outcomes. Although there is a long history of community-based programs for pregnant teens and teen parents (Quint & Riccio, 1985), the Perkins Act was the first to provide funds for single parents in vocational education. Thus, there is less information in the literature regarding such programs at this time. However, information is available from two such programs.

The Madison County (Florida) Board of Public Instruction (1987) implemented a program that provided training in parenting skills, childhood growth and development, responsibilities of parenthood, rights of children, decision-making skills, and vocational guidance. Out of 52 potential participants, 40 participants enrolled for program services. All received counseling and were required to enroll in a vocational class at the high school or a vocational program at the local junior college. All participants were referred for services to community agencies as needed. Outcomes of the project were as follows:

- A total of 32 participants continued their education.
- The birth weights of infants born to program participants late in the project were higher, on the average, than birth weights of infants born near the beginning of the project.
- Prenatal care and infant medical care improved.
- Scarce and hard-to-find infant care improved as day care homes were established.
- Transportation was available as needed.

Ferguson and Reed (1987) reported that the Ohio vocational home economics program (see GRADS discussion under section on model programs) designed to help pregnant students and young parents graduate from high school has enabled 88% of the students to graduate or continue to be enrolled. Both of these program results provide quite a different picture from the national figures indicating that 80% of teenage mothers drop out of high school.

Critique of Available Research

As pointed out by the Office of Technology Assessment (1986), adequate information on programs serving displaced homemakers has never been collected. Information about elements of program success and failure, important to local project directors in designing effective services, is not available.

The Perkins Act does not require much detailed or specific reporting on programs serving single parents and homemakers. Neither does the U.S. Department of Education, which could include such requirements in the regulations for the act. The beginnings of a consistent, national system of data collection (including client characteristics, services provided, outcomes, and follow-up results) are being developed through the efforts of the state sex equity coordinators. However, it is too early to have much information available through the system.

The National Coalition for Women and Girls in Education (1988) examined how the Perkins Act has been implemented in 16 states, focusing on the implementation of the single parent and homemaker program and the sex equity program. They found that in states where funds are allocated on a formula basis, rather than through a request for proposal (RFP) process, the amount of funds received by a district or institution is often so small that it is not possible to implement special programming. Further, there are often minimal or no requirements to structure appropriate programs or services. Muraskin (1988) confirmed that 24% of the states allocate single parent and homemaker funds by formula at the postsecondary level and 6% at the secondary level.

As long as such practices are permitted, funds that should provide services to single parents and homemakers are not, in fact, doing so. Further national studies, such as that of the coalition, would point up the negative effects of such practices.

Recommendations

Based on available knowledge, it seems apparent that single parent and homemaker programs are assisting people to become employed and/or enter or reenter education and training. Given this situation, it is recommended that the 8.5% set-aside for such programs be continued in the vocational education legislation. With the expansion of the program to include pregnant teenagers (through U.S. Department of Education policy) in 1987, it would not be out of line to increase the set-aside for this program.

Given the situation in many states where funds are distributed on a formula basis and little guidance is given on how the funds should be used to assist single parents and homemakers, changes should be made in the system. It is recommended that states be required to distribute the 8.5% set-aside funds on a request for proposal basis and that specific guidelines for determining the effectiveness of the programs be issued by the state.

Based on the fact that additional information is needed, the following recommendations are made:

- National studies of the effectiveness of single parent and homemaker programs funded under the Perkins Act should be conducted, based on the characteristics of participants and the outcomes of the programs for participants.
- Follow-up studies of program participants should be conducted 6 months, 1 year, and 3 years after participation in order to determine the contributions

being made to the economy by formerly unemployed single parents and homemakers.

- Comparative studies of the effectiveness of specific program components should be conducted to enable program proposers and managers to offer the best possible programs to single parents and homemakers.

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